

USSR

UDC 621.396.677

YERUKHIMOVICH, YU. A.

"Scattering of a Spherical Wave by Truncated Bodies of Revolution"

Moscow, V sb. Antenny (Antennas -- collection of works), "Svyaz'", 1969, Vol 6, pp 17-49 (from RZh-Radiotekhnika, No 4, 1970, Abstract No 4B4)

Translation: The field of scattering by truncated bodies of revolution is analyzed where the bodies are formed by second order curves during irradiation of these bodies from a single focus by a spherical wave source. This was done within the scope of approximation physical optics. The curvilinear coordinate method is used in the analysis. The resulting system of formulas makes it possible to calculate the field in the entire space, including transition zones, within the accepted approximation. The results support the principle of locality. With the exception of direction near the axis of symmetry of a body, the field of scattering

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YERUKHIMOVICH, YU. A., Antenny, "Svyaz'", 1969, Vol 6, pp 17-49

has the same kind of phase structure as a field which has been set up by source rays locally reflected from the points of a mirror surface. It is noted that the results of this study can be used for calculating the field of scattering from a mirror antenna or re-emitters of corresponding shape. Original article: 16 illustrations and 8 bibliographic entries. V.B.

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UDC 621.396.677.833.2(088.8)

YERUKHIMOVICH, Yu. A., BOZUYEV, B.

"Antenna"

USSR Author's Certificate No 280474, filed 3 July 68, published 26 Jan 71  
(from RZh—Radiotekhnika, No 9, Sep 1971, Abstract No 9B57P)

Translation: An antenna is proposed for terrestrial or cosmic radio communication. The basic mirror of the antenna has a circular edge on which is placed a cylindrical attachment [nasadka] of the same diameter. The attachment has a height equal to the average wave length ( $\lambda_{av}$ ). The external edge of the attachment is made in the form of an even number of spiral cuts with a forward or counter direction of the spirals. These media are offset in height, one with regard to another, by  $\lambda_{av}/2$  and are cut through at the radius of the attachment to a height of  $\lambda_{av}/2$ . Edge waves [krayevyye volny] from the edge of the mirror which is excited by a source proceed to an observation point occurring in the far zone on the symmetry axis of the system or close to it, in the rear half-space. The mirror is excited by an in-phase source. All points of the spirally cut attachment dissipate energy in various directions, i.e., practically diffuse scattering of energy results. In addition, compensation is accomplished of fields incoming to the observation

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YERUKHIMOVICH, Yu. A., BOZUYEV, B., USSR Author's Certificate No 280574,  
filed 3 July 68, published 26 Jan 71 (from RZh--Radiotekhnika, No 9,  
Sep 1971, Abstract No 9B57P)

point from each pair of diametrically opposite points of the attachment.  
Consequently, the total effect during rearward radiation will be consider-  
ably weakened. An increase of the number of cuts increases the symmetry  
of the antenna. 2 ill. V. S.

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UDC: None

YERUKHIMOVICH, Yu. A., ZIMIN, S. N., and METRIKIN, A. A.

"Two-Reflector Antenna for Radio Relay Communications"

Moscow, Antenny, No. 7, 1970, pp 3-21

Abstract: The results of experimental tests on a new double reflector antenna with a shifted focal axis, designed according to recommendations of the International Radio Consultative Committee (MKKR) for radio relay lines, are presented and analyzed. A discussion is given of the basic system and characteristics of antennas of the shifted focal axis type. An expression is given for the gain factor, and the directional diagram of the antenna is plotted. Also plotted from the latter are curves showing the variation of the integral energy distribution in the E and H planes with respect to the antenna axis angle. These curves show that, within the limits of the main lobe ( $\pm 10^\circ$ ), the radiated energy in the H plane amounts to 78.4% of the total energy radiated, while in the E plane the radiated energy amounts to 56.8%. Cross-sectional diagrams of the antenna showing its structure and dimensions are given, and photographs of an elliptical reflector and the antenna itself are shown. The authors assert that the antenna has high electrical parameters despite the simplicity of its construction, and that it is

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YERUKHIMOVICH, Yu. A., et al, Antenny, No. 7, 1970. pp 3-21

valuable for satellite as well as earthbound radio relay communication. They conclude by thanking Engineer Yu. B. Buzuyev, who conducted the experimental work.

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USSR

UDC: 621.396.677.73

YERUKHIMOVICH, Yu. A., ZIMIN, S. N.

"An Antenna"

Moscow, Otkrytiya, Izobreteniya, Promyshlennyye Obrazttsy, Tovarnyye Znaki,  
No 32, 1970, Soviet Patent No 284063, Class 21, filed 6 May 66, p 30

Abstract: This Author's Certificate introduces: 1. An antenna made in the form of a circular horn radiator and a reflector. As a distinguishing feature of the patent, the antenna is designed to produce a circular radiation pattern in one plane and a narrow pattern in another plane over a broad frequency band. To this end, the reflector is made in the form of a surface generated by rotating part of a parabola cut by a straight line passing through its focus, where the vertex of the reflector is located. The intersecting straight line is the axis of rotation of the given part of the parabola, and coincides with the axis of the reflector. 2. A modification of this antenna distinguished by the fact that polarization independent of the direction of emission is ensured by installing a conductor along the reflector axis with one end connected to the inner conductor of the coaxial antenna input, while the other end is connected to the vertex of the reflector.

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Antennas

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UDC: 621.396.677.833

YERUKHIMOVICH, Yu. A., BUZUYEV, Yu. B.

"An Antenna"

Moscow, Otkrytiya, Izobreteniya, Promyshlennyye Obraztsy, Tovarnyye Znaki, No 28, 1970, Soviet Patent No 280574, Class 21, filed 3 Jul 68, p 48

Abstract: This Author's Certificate introduces an antenna made in the form of a paraboloid with a cylindrical attachment on the periphery and a radiator. As a distinguishing feature of the patent, emission behind the antenna is reduced by making the outer edge of the cylindrical part in the form of an even number of spiral cuts with oppositely directed spirals. The cuts are spaced by half the mean wavelength.

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USSR

UDC (678.84+678.746.22-139).002.612

DAVYDOVA, V. P., YERUNOVA, G. G., and YEREMINA, L. K., All-Union Scientific Research Institute of Synthetic Rubber imeni S. V. Lebedev

"Graft Copolymers of Siloxane Rubber and Acrylonitrile"

Moscow, Kauchuk i Rezina, No 8, 1970, pp 1-3

Abstract: A study was made of the composition and properties of graft copolymers of dimethylvinylsiloxane rubber and acrylonitrile, synthesized with the use of different solvents in the presence of a radical polymerization initiator. It was found that the structure of the graft copolymer varies according to the solvent in which the grafting was performed. The best technological properties are found in graft copolymers obtained in gasoline, cyclohexane or n-heptane. The glass transition temperature is  $115 \pm 121.5^\circ \text{C}$ , which is not very much different from the glass transition temperature of dimethylsiloxane rubber. Vulcanizates of the graft copolymers are analogous to siloxane rubbers in frost and heat resistance. They are considerably superior to rubbers of SKN-40 in heat aging resistance, but inferior to siloxane rubbers. In oil resistance, rubbers of the graft copolymers take an intermediate position between SKN-40 and SKFV rubbers. Graft copolymers containing ~ 40 percent acrylonitrile and filled with aerosil (20 parts by

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DAVYDOVA, V. P., et al., Kauchuk i Rezina, No 8, 1970, pp 1-3

weight) provide optimal oil resistance data.

L. P. TKACHEVA and T. F. DUNYASEKINA took part in the experimental work.

USSR

UDC 621.582.002

YEFIMOV, YE.A., YERUSALIMCHIK, I.G., OSIPENKOVA, E.L., SOKOLOVA, G.P.

"Electrodeposition Of Copper In Order To Obtain Volume Leads Of Semiconductor Devices"

Elektron. tekhnika. Nauch.-tekhn. sb. Poluprovodn. pribory (Electronics Technology. Scientific-Technical Collection. Semiconductor Devices), 1970, Issue 6(56), pp 89-92 (from RZh--Elektronika i yeye primeneniye, No 10, October 1971, Abstract No 10B488)

Translation: Preceding electrochemical deposition of copper volume leads on a sputtered 0.5-[?] thick Cu layer with masking by "385" photoresist, processing of the substrate in concentrated HCl during 15--20 sec at a temperature of 20 plus or minus 2° C is optimum. The electrolyte composition 200 g/l CuSO<sub>4</sub>, 5 H<sub>2</sub>O, 50 g/l H<sub>2</sub>SO<sub>4</sub>; 0.04 g/l CS(NH<sub>2</sub>)<sub>2</sub>; 0.04 g/l NaCl gives the greatest increase of the diameter of the local deposition of Cu. With a 20° C temperature of the solution, the current density is 0.1 a/cm<sup>2</sup>, the height of the deposited columns of Cu not greater than 40 micrometer, the diameter of the column during the time of deposition (50 min) is increased by 5--10 micrometer. Cylindrical leads of proper form are obtained with horizontal immersion of the working wafer into the electrolyte. Correction of the electrolyte by addition of thiourea is necessary in the operating process. The assumed mechanism of chemical and electrochemical reactions occurring during electrodeposition of Cu is described.

1 ill. 4 ref. I.M.

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Acc. Nr:

AP0047252

Ref. Code:

UR 0606

PRIMARY SOURCE: Urologiya i Nefrologiya, 1970, Nr  
PP 51-53

ROENTGENOLOGICAL EXAMINATION OF THE PROSTATE IN HYPOGONADISM

A. I. Bukhman, B. Sh. Kogan, I. V. Golubeva, G. I. Yeryamkin

Summary

Materials of examination of 23 patients with various diseases were subjected to thorough clinico-roentgenological analysis. Male hypogonadism was present in 15 of these cases. X-ray contrast and noncontrast prostatography serves as one of the important methods of improved diagnosis of male hypogonadism. Prostatography offers a possibility of detecting the presence, the shape and the size of the prostate gland, and is of expedience in various pathological processes developing in this organ.

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19790759

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1/2 015 UNCLASSIFIED PROCESSING DATE--20NOV70  
TITLE--MODIFIED STEROIDS. V. PMR SPECTRA OF SOLASODANE DERIVATIVES -U-  
AUTHOR--(05)--YERYEV, V.P., TULSTIKOV, G.A., VASILYUK, S.M., ROMACHENKO,  
G.N., GORYAYEV, M.I.  
COUNTRY OF INFO--USSR  
SOURCE--IZV. AKAD. NAUK KAZ. SSR, SER. KHIM. 1970, 20(2), 33-9  
DATE PUBLISHED-----70  
SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES, CHEMISTRY  
TOPIC TAGS--HORMONE, PROTON RESONANCE, PROTON SPECTRUM  
CENTROL MARKING--NO RESTRICTIONS  
DOCUMENT CLASS--UNCLASSIFIED  
PROXY REEL/FRAME--3004/0760 STEP NO--UR/0360/70/020/002/0033/0039  
CIRC ACCESSION NO--AP0131355  
UNCLASSIFIED

2/2 015 UNCLASSIFIED PROCESSING DATE--20NOV70  
CIRC ACCESSION NO--AP0131355  
ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. SIGNALS OF ME GROUPS 5 ALPHA AND 5  
BETA SCLASODANES WERE LOCATED IN THEIR PMR SPECTRA. THE RULE OF  
ADDITIVITY OF CHEM. SHIFTS OF ANGULAR ME GROUPS HOLDS IN THIS CLASS OF  
COMPODS. AS IN THE CASE OF ANDROSTANES. FACILITY: INST. KHIM.  
NAUK, ALMA-ATA, USSR.

UNCLASSIFIED

USSR

UDC 577.15

KOMOLOVA, G. S., ~~VERYGIN, G. D.~~ VASIL'YEVA, T. B., and YEGOROV, I. A.,  
Institute of Biochemistry imeni A. N. Bakh, Academy of Sciences USSR, Moscow

"Effect of a Constant Magnetic Field of High Intensity on the Enzymatic  
Hydrolysis of Nucleic Acids"

Moscow, Doklady Akademii Nauk SSSR, Vol 204, No 4, 1972, pp 995-997

Abstract: DNA ( $S \sim 25$ ) and RNA were subjected to the action of DNA-ase and RNA-ase respectively at 25°C for 1.5 hr under the effect of a magnetic field. The reaction mixtures were circulated continuously through a tube. The change in the enzyme activity due to the action of the magnetic field was determined spectrophotometrically on the basis of the increase of extinction in the acid-soluble fraction at  $\lambda = 260 \text{ m}\mu$ . The concentration of the enzyme at which the reaction began was 0.6  $\gamma/\text{ml}$  (enzyme - substrate ratio 1:5000) for RNA-ase and 3  $\gamma/\text{ml}$  for DNA-ase (enzyme - substrate ratio 1:50), respectively. In the experiments with DNA - DNA-ase, the activity of DNA-ase was increased as a result of the action of the magnetic field by 30, 16, and 0% at intensities of the magnetic field equal to  $3.2 \times 10^3$ ,  $1.2 \times 10^3$ , and  $0.8 \times 10^3 \text{ Oe}$ , respectively. The effect of the magnetic field can be ascribed to reorientation of DNA molecules. The activity of RNA-ase was not yet increased at  $3.2 \times 10^3 \text{ Oe}$ . One may assume that much higher intensities of the magnetic

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KOMOLOVA, G. S., et al., Doklady Akademii Nauk SSSR, Vol 204, No 4, 1972, pp 995-997

field will be required to exert an effect on the RNA - RNA-ase reaction. (Submitted by Academician A. I. Oparin, 19 Jul 71).

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USSR

UDC: 8.74

SHABANOV-KUSHNARENKO, Yu. P., ~~YERYOMIN, G. S.~~, KACHKO, Ye. G., MARCHENKO, Yu. S., PCHELINOV, V. P., TISHCHENKO, V. V.

"On the Problem of Axiomatic Construction of Mathematical Models"

Probl. bioniki. Resp. mezhved. temat. nauch.-tekhn. sb. (Problems of Bionics. Republic Interdepartmental Thematic Scientific and Technical Collection), 1971, vyp. 6, pp 70-74 (from RZh-Kibernetika, No 1, Jan 72, Abstract No 1V1074)

Translation: Mathematical methods are proposed for describing objects which have known input and output signals. Authors' abstract.

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UNCLASSIFIED  
TITLE--INDOLE DERIVATIVES. V. SYNTHESIS AND TUBERCULOSTATIC ACTIVITY OF  
INDOLE-3-ALKANOIC ACIDS -U-  
AUTHOR--(051)-AVRAMENKO, V.G., PERSHIN, G.N., MUSHULOV, P.I., HAKHEYEVA,  
O.O., YERYSHEV, B.YA.  
COUNTRY OF INFO--USSR

SOURCE--KHIM.-FARM. ZH. 1970, 4(3), 15-18

DATE PUBLISHED-----70

SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES

TOPIC TAGS--INDOLE DERIVATIVE, ORGANIC ACID, CHEMICAL SYNTHESIS, MOLECULAR  
STRUCTURE, TUBERCULOSIS

CONTROL MARKING--NO RESTRICTIONS.

DOCUMENT CLASS--UNCLASSIFIED  
PROXY REEL/FRAME--1998/0361

STEP NO--UR/0450/70/004/003/0015/0018

AIRC ACCESSION NO--AP0121049

UNCLASSIFIED

272 015

UNCLASSIFIED

PROCESSING DATE--23OCT70

IRC ACCESSION NO--AP0121049

BSTRACT/EXTRACT--(U) GP-O- ABSTRACT. A MIXT. OF 0.05 MOLE INDOLE, 0.1 MOLE OMEGA CHLORO OR BROMOALKANECARBOXYLIC ACID, 0.4 MOLE KOH AND 50 ML H<sub>2</sub>SO<sub>4</sub> WAS PLACED IN AN AUTOCLAVE, TEMP. RAISED TO 240-50DEGREES DURING 2-2.5 HR AND KEPT 12 HR AT THIS TEMP. TO YIELD 10 I AND THEIR ESTERS AND HYDRAZIDES. THE TUBERCULOSTATIC ACTIVITY OF I AND I HYDRAZIDES IS GIVEN. FACILITY: MOSK. PHIM.-TEKHNOL. INST. IM. MENDELEEVA, MOSCOW, USSR.

UNCLASSIFIED

USSR

UDC 615.281.221.1:547.757

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AVRAMENKO, V. G., PERSHIN, G. N., MUSHULOV, P. I., ~~MATEYEVA, O. O.~~  
YERYSHEV, B. YA., SHAGALOV, L. B., SUVOROV, N. N., Moscow Institute  
of Chemical Technology imeni D. I. Mendeleev, Moscow, Ministry of  
Higher and Secondary Specialized Education RSFSR; All-Union Scien-  
tific Research Chemical and Pharmaceutical Institute imeni S.  
Ordzhonikidze, Moscow, Ministry of Health USSR

"Indole Derivatives. Part V. Synthesis and Tuberculostatic Acti-  
vity of Omega-Indolyl-3-Alkannic Acids"

Moscow, Khimiko-Farmatsevticheskiy Zhurnal, Vol XV, No 3, 70, pp.  
15-18

Abstract: Indolylalkannic acids have been the subject of numerous studies for quite some time. Most of this research, however, has been devoted to lower members of the series of indolylalkannic acids, namely indolyl-3-acetic,  $\beta$ -indolyl-3-propionic and  $\gamma$ -indolyl-3-butyric acids. It is expected that some of these compounds may possess physiological activity. Of particular interest is  $\omega$ -indolyl-3-undecanoic acid, which is the indole analog of hydnocarpic acid. Indole alkylation with haloalkannic acids shows considerable promise. Earlier research describes the synthesis of heteroauxin from indole

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AVRAMENKO, V. G., et al, Moscow, Khimiko-Farmatsevticheskiy Zhurnal, Vol IV, No 3, 70, pp 15-18

and chloracetic acid. In recent years  $\omega$ -chloroalkannic acids with an odd number of carbon atoms have become readily available. Indole was alkylated with  $\omega$ -haloalkannic acids in a strongly alkaline medium by heating in an autoclave; 240 -- 250 °C, 18 -- 20 atm pressure and a 1:2 indole-to-haloalkannic acid ratio appear to be the optimum reaction conditions. The yield of  $\omega$ -indoly-3-alkannic acids was 42 -- 90%. The tuberculostatic activity was determined in vitro in a Soton medium with and without blood serum of a horse. Use was made of human microbacteria Academia and H37Rv. The compounds were found to have tuberculostatic activity.

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1/2 020  
UNCLASSIFIED  
TITLE--CATALYSTS FOR THE SYNTHESIS OF UNSATURATED POLYESTERS -U-  
PROCESSING DATE--30OCT70  
AUTHOR--(04)--SKUBIN, V.K., KUTEPOV, D.F., VALGIN, A.D., YERYSHEV, B.YA.  
COUNTRY OF INFO--USSR  
SOURCE--VYSOKOMCL. SOEDIN., SER. B 1970, 12(3), 171-3  
DATE PUBLISHED--70  
SUBJECT AREAS--MATERIALS, CHEMISTRY  
TOPIC TAGS--CATALYTIC ORGANIC SYNTHESIS, POLYESTER RESIN, OLIGOMER,  
POLYCONDENSATION, AMINE, HYDROXYL RADICAL, CHEMICAL REACTION MECHANISM,  
CATALYST  
CONTROL MARKING--NO RESTRICTIONS  
DOCUMENT CLASS--UNCLASSIFIED  
PROXY REEL/FRAHE--2000/0673  
STEP NO--UR/0460/70/012/003/0171/0173  
CIRC ACCESSION NO--AP0124345  
UNCLASSIFIED

2/2 020

UNCLASSIFIED

PROCESSING DATE--30OCT71

CIRC ACCESSION NO--AP0124345

ABSTRACT/EXTRACT--(U) GP-O- ABSTRACT. OLIGOMERIC POLYESTERS, WHERE R IS ALKYL OR ARYL AND R PRIME1 IS SHOWN ON MICROFICHE, SYNTHESIZED BY POLYCONDENSING HO SUB2 C CH:CHCO SUB2 H WITH RNH SUB2 AND HOR PRIME1 OH, PNH SUB2 ACTS AS THE POLYCONDENSATION CATALYST (G. FODOR, 1960). THE MECHANISM OF THE REACTION WAS DISCUSSED. THE SOLNS. OF I IN PHCH:CH SUB2 OR TRIETHYLENE GLYCOL DIMETHACRYLATE ON ADDN. OF BZ SUB2 O SUB2 HARDENED AT ROOM TEMP. IN 10-60 MIN.

UNCLASSIFIED

1/2 053  
UNCLASSIFIED  
TITLE--STUDY OF THE SPECTRA OF GASEOUS MOLECULAR LASER MIXTURES -U-  
PROCESSING DATE--30OCT70  
AUTHOR--(02)-IVANDV, V.N., YERYBASHEVA, L.F.  
COUNTRY OF INFO--USSR  
SOURCE--OPTIKA I SPEKTROSKOPIIA, VOL. 28, MAR. 1970, P. 535-539  
DATE PUBLISHED----MAR 70  
SUBJECT AREAS--PHYSICS  
TOPIC TAGS--GAS LASER, CARBON DIOXIDE LASER, LASER RADIATION SPECTRUM, GAS  
DISCHARGE, HYDROGEN, HELIUM, LINE INTENSITY  
CONTROL MARKING--NO RESTRICTIONS  
DOCUMENT CLASS--UNCLASSIFIED  
PROXY REEL/FRA--1996/1507  
STEP NO--UR/0051/70/028/000/0535/0539  
CIRC ACCESSION NO--AP0118494  
UNCLASSIFIED



2/2 053

UNCLASSIFIED

PROCESSING DATE--30OCT70

CIRC ACCESSION NO--AP0118494

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. QUALITATIVE STUDY OF THE KINETIC CHANGES IN THE INTENSITY OF SPECTRAL LINES AND BANDS OF INDIVIDUAL MOLECULAR GASES AND MIXTURES USUALLY USED IN CARBON DIOXIDE LASERS. A SIGNIFICANT CHANGE IN THE SPECTRAL COMPOSITION OF THE RADIATION OF THE CARBON DIOXIDE-HELIUM SYSTEM DURING A GAS DISCHARGE IS OBSERVED. IT IS CONCLUDED THAT THIS CHANGE IS LARGELY DUE TO THE PRESENCE OF HYDROGEN AND HYDROGEN CONTAINING COMPLEXES IN THE HELIUM COMPONENT OF THE MIXTURE.

UNCLASSIFIED

AN0026670

AUTHOR-- YERYUKHIN, A., LIEUTENANT COLONEL

UR 9008

TITLE-- VETERANS OF THE ACADEMY MEET

NEWSPAPER-- KRASNAYA ZVESDA, MARCH 8, 1970, P 1, COL 3

ABSTRACT-- THE 1940 GRADUATES OF THE COMMAND SCHOOL OF THE AIR FORCE ENGINEERING ACADEMY IMENI ZHUKOVSKIY MET ON MARCH 7, 1970. THE MEETING WAS ATTENDED BY S. N. GRECHKO, GENERAL-COLONEL OF AVIATION /SMCLN/ N. A. NAUMOV, GENERAL-LIEUTENANT OF AVIATION /SMCLN/ MARSHAL OF AVIATION, COMMANDANT OF THE AIR FORCE ACADEMY IMENI GAGARIN, S. I. RUDENKO /SMCLN/ GENERAL-COLONEL OF AVIATION, HEAD OF A CHAIR AT THE MILITARY ACADEMY OF THE GENERAL STAFF, N. G. SELEZNEV //SMCLN/ GENERAL-MAJOR OF THE ENGINEERING-TECHNICAL SERVICE, ACTING COMMANDANT OF THE AIR FORCE ENGINEERING ACADEMY IMENI ZHUKOVSKIY, A. V. SHTODA, ET AL.

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USSR

UDC 619:616.981.42-084.47

ZHOVANIK, P. N., MAYBORODA, A. A., and YERZH, N. I., Ukrainian Scientific Research Institute of Experimental Veterinary Medicine

"Effectiveness of Nonagglutinogenic Vaccine Against Brucellosis"

Moscow, Veterinariya, No 6, Jun 73, pp 50-52

Abstract: In connection with a study of mutations of Brucella microorganisms, strains of nonagglutinogenic mutants were selected which had lowered virulence, exhibited pronounced immunogenicity, and did not stimulate the formation of antibodies that reacted with the ordinary brucellosis antigen. One of these strains, Br. abortus V-8, which was found to retain its cultural and biological characteristics for about 10 yrs, was used for the preparation of an antibrucellosis vaccine. Good results were obtained in field tests by applying this vaccine for the immunization of cattle.

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Veterinary Medicine

USSR

UDC 619:616.981.42-084.47:616-092.4/.9

YAZYKOVA, K. N., Candidate of Biological Sciences, and N. I. YERZ, Candidate of Veterinary Sciences, Ukrainian Scientific Research Institute of Experimental Veterinary Medicine

"Changes in Organs Following Vaccination with Br. abortus B-8"

Moscow, Veterinariya, No 4, 1973, pp 41-42

Abstract: Histopathologic studies were conducted on calves immunized with Br. abortus B-8. The 6-8 month-old calves were injected subcutaneously in the neck region with 5 ml of the vaccine ( $100 \times 10^9$  cells per 1 ml), and 3-5 animals were sacrificed 19 and 46 days and 11 months after immunization. Control animals were infected through the conjunctival route with Br. abortus 544. Throughout the period of observation the experimental animals were negative serologically (CF and agglutination tests). Most of the significant pathological changes were observed 19 days after immunization, and consisted of the following: the liver showed hyperplasia of the RES cells, hyperemia, and limited lymphocyte infiltrates; the spleen showed RES cell hyperplasia, hyperemia, and moderate infiltration of the pulp with neutrophils, macrophages, plasma cells, and immature lymphocytes, while the lymph nodes showed hyperplasia of the secondary follicles and RES cells, infiltration of the cortex and the

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YAZYKOVA, K. N. and N. I. YERZ, Veterinariya, No 4, 1973, pp 41-42

medullary cords and the sinusoids with lymphoid cells, macrophages, plasma cells, and some neutrophils. By day 46 the changes in the lymph nodes were more pronounced, but abnormal findings were absent in the other organs. At 11 months the experimental animals were infected conjunctivally with Br. abortus 544; only mild changes of the type already noted were seen in the lymph nodes of the head region. Infection of nonimmunized controls with Br. abortus B-8 elicited severe changes in the lymphoid and other tissues of the type previously described, complicated by hemorrhages and necrotic changes in the liver and the lymph nodes. Infiltrative changes were much more pronounced than in the experimental animals.

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Veterinary Medicine

USSR

UDC 636.2:615.371

ZHOVANIK, P. N., Doctor of Veterinary Sciences, and MAYBORODA, A. A. and YERZH, N. I., Candidates of Veterinary Sciences, Ukrainian SSR Scientific Research Institute of Veterinary Science

"Tests of Strain B-8 Nonagglutinating Brucellosis Vaccine in Immunization Experiments on Young Cattle"

Moscow, Doklady Vsesoyuznoy Ordena Lenina Akademii. Sel'skokhozyaystvennykh Nauk imeni V. I. Lenina, No 8, 1972, pp 33-35

Abstract: Dry, live brucellosis vaccine obtained from cultures of nonagglutinating, weakly virulent mutant *Brucella abortus*, strain B-8 was tested in the laboratory of guinea pigs and 5-10 month old heifers and at two brucellosis-infected farms on 5-10 month old heifers. The preliminary laboratory experiments indicated that the vaccine did not cause appearance of agglutinins and generated stable immunity. No significant pathological changes due to the vaccine were noted. In a 2-year period 641 heifers at 2 farms were immunized at 5-10 months old and revaccinated 1-2 months prior to fertilization. Pathological changes were insignificant up to 6 weeks after vaccination, while none were noted among heifers slaughtered 10 months after vaccination. The vaccine culture was found to survive well for the 1st 3 weeks and then rapidly  
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USSR

ZHOVANIK, P. N., et al., Doklady Vsesoyuznoy Ordена Lenina Akademii Sel'skokhozyaystvennykh Nauk imeni V. I. Lenina, No 8, 1972, pp 33-35

disappear by the 6th week. Hemagglutination and complement-fixation reactions were negative after vaccination and revaccination for all but 1 immunized heifer. The preventative properties of blood serum from 69 vaccinated heifers were tested on white mice. Such serum resulted in 41.3% survival of mice infected with a highly virulent strain, while only 22.6% of such mice survived when not treated with the serum. The immunity of 18 vaccinated and 12 control heifers was tested by infecting them with standard strain Br. abortus 544. While a generalized infection resulted among all control animals, 13 immunized heifers had complete immunity and 5 had partial immunity. All 5 animals infected after revaccination exhibited complete immunity. It is concluded that this vaccine should be tested further and employed on young animals to improve the condition of brucellosis-infected herds.

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USSR

UDC 547.241

AZERBAYEV, I. N., DZHAYLAUOV, Yu. G., BOSYAKOV, K. B., YERZHANOV, K. B.,  
SERIKBAYEV, K. S., and ALEKSEYEVA, N. N., Institute of Chemical Sciences,  
Acad. Sc., KazSSR, Alma-Ata

"Reactions of Unsaturated Phosphites With Aldehydes and Ketones"

Alma-Ata, Izvestiya Akademii Nauk Kazakhskoy SSR, Seriya Khimicheskaya No 1,  
Jan-Feb 73, pp 51-57

Abstract: Condensation of dipropargyl phosphite with chloral and bromal yields  
O,O-dipropargyl (1-hydroxy-2,2,2-trichloroethyl)phosphonate and its tribromo  
analog even without any catalyst. In the presence of sodium alkoxide the  
reaction of diallyl phosphate with 2,5-dimethylpiperidone-4, 2,6-diphenyl-  
piperidone-4, 2,6-di(2-hydroxyphenyl)-piperidone-4, 1,2,5-trimethylpiperidone-  
-4 yields the respective 4-diallylphosphanepiperidoles-4; with 2,2-dimethyl-  
tetrahydropyranone-4, 2,2-dimethyltetrahydrothiopyranone-4 and 2,5-dimethyl-  
tetrahydrothiopyranone-4 the products are the respective 4-diallylphosphane-  
tetrahydropyranols-4. The esters of  $\alpha$ -hydroxyphosphinic acids of pyrone,  
and thiopyrone series are unstable, decomposing on distillation.

1/1



USSR

UDC 547.241+547.362+547.81+547.823

AZERBAYEV, I. N., DZHAYLAUOV, S. D., BOSYAKOV, Yu. G., YERZHANOV, K. B.,  
and SERIKBAYEV, K. S., Institute of Chemical Sciences, Academy of Sciences  
KazakhSSR

"Reaction of Dipropargylphosphorous Acid With Heterocyclic Ketones"

Leningrad, Zhurnal Obshchey Khimii, Vol 43 (105), No 2, Feb 73, pp 288-292

Abstract: Reaction of dipropargylphosphorous acid with  $\alpha$ -ketones of the pyran, thiopyran, and piperidine series in presence of sodium alkoxide leads to the formation of respective dipropargyl esters of heterocyclic  $\alpha$ -hydroxyphosphonic acids. It was shown that nucleophilic addition of dipropargyl phosphite to pyranone and thiopyranones, in contrast to piperidones, requires the presence of alkaline catalysts. It is assumed that the aminoketone acts as a catalyst.

1/1

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1/2 009 UNCLASSIFIED PROCESSING DATE--30OCT70  
TITLE--SYNTHESIS OF HETEROCYCLIC ACETYLENIC ALPHA, ALPHA PRIME, AND GAMMA  
TRIOLS -U-  
AUTHOR--(03)-AZERBAYEV, I.N., KUSAINOVA, ZH.ZH., YERZHANOV, K.B.  
COUNTRY OF INFO--USSR  
SOURCE--IZV. AKAD. NAUK KAZ. SSR, SER. KHIM. 1970, 20(1), 81-4  
DATE PUBLISHED-----70  
SUBJECT AREAS--CHEMISTRY  
TOPIC TAGS--CONDENSATION REACTION, KETONE, ACETYLENE, HETEROCYCLIC  
NITROGEN COMPOUND, ALCOHOL, CHEMICAL SYNTHESIS  
CONTROL MARKING--NO RESTRICTIONS  
DOCUMENT CLASS--UNCLASSIFIED  
PROXY REEL/FRAE--1997/0622 STEP NO--UR/0360/70/020/001/0081/0084  
CIRC ACCESSION NO--AP0119534  
UNCLASSIFIED

2/2 009

UNCLASSIFIED

PROCESSING DATE--30OCT70

CIRC ACCESSION NO--AP0119534

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE TITLE COMPOS. WERE PREPD.

EITHER BY CONDENSATION OF KETONES (SUCH AS SUBSTITUTED PIPERIDONES) WITH  
HEXYNEDIOL, OR BY CONDENSATION OF 4, HYDROXY, 4, ETHYNYLPIPERIDONES WITH

BETA KETOLS. THUS, 12.6 G 2,6, DIPHENYL, 4, PIPERIDONE AND 12.8 G

3, METHYL, 1, HEXYNE, 3, 5, DIOL (I) IN 100 ML TETRAHYDROFURAN (II) WAS ADDED

AT 0-2DEGREES TO 16.8 G KOH AND 150 ML II TO GIVE 52PERCENT

2,6, DIPHENYL, 4, (3, METHYL, 3, 5, DIHYDROXYHEXYNYL), 4, PIPERIDINOL (III), M.

117-18DEGREES (LIGROINE); HYDROCHLORIDE M. 262-40DEGREES. SIMILARLY,

56PERCENT, 2,2,5, TRIMETHYL, 4, (3, METHYL,

3,5, DIHYDROXYHEXYL), 4, PIPERIDINOL, M. 132-3DEGREES (LIGROINE)

(HYDROCHLORIDE M. 160-1DEGREES) WAS PREPD. FROM 5.7 G

2,2,5, TRIMETHYL, 4, PIPERIDONE AND 7.6 G I. ETMGBR (FROM 1.93 G MG AND

8.75 G ETBR IN 100 ML II) WAS TREATED WITH 6.68 G BETA ISOMER OF

1,2,5, TRIMETHYL, 4, HEXYNYL, 4, PIPERIDINOL IN 50 ML II AND 4.1 G

2, OXO, 4, PENTANOL IN 20 ML II TO GIVE 35PERCENT 1,2,5, TRIMETHYL, 4, (3,

METHYL, 3, 5, DIHYDROXYHEXYNYL), 4, PIPERIDINOL M. 139-40DEGREES;

HYDROCHLORIDE M. 227-8DEGREES. SIMILARLY, 63.2PERCENT

2,2, DIMETHYL, 4, (3, METHYL, 3, 5, DIHYDROXYHEXYNYL), 4, TETRAHYDROPYRANOL M.

78-9DEGREES WAS OBTAINED FROM 6.15 G

2,2, DIMETHYL, 4, ETHYNYL, 4, TETRAHYDROPYRANOL AND 4.1 G III.

FACILITY: INST. KHIM. NAUK, ALMA-ATA, USSR.

UNCLASSIFIED

USSR

UDC 911.3:616.981.452(574.11)

3

SHEVCHENKO, V. L., ALTUKHOV, A. A., IVANOV, S. I., YERZHANOV, S. T.,  
GRAZHDANOV, A. K., KAYMASHNIKOV, V. I., and MEDZYKOVSKIY, G. A.

"Isolation of a Culture of Plague Bacteria in the Spring of 1968 on the North-east Border of the Volga-Ural Sands"

V sb. Probl. osobo opasn. infektsiy (Problems of Especially Dangerous Infections -- collection of works), Saratov, No 4(14), 1970, pp 135-138 (from RZh-Meditsinskaya Geografiya, No 3, Mar 71, Abstract No 3.36.115)

Translation: The conditions of isolation and results of a study of two strains of plague bacteria in the natural landmark area of Annar, the Furmanovskiy rayon of Uralskiy Oblast are described. Both strains were isolated in a region in which no epizootic diseases have been recorded for more than 20 years and in which great gerbils are almost completely nonexistent. The reduced virulence, as well as some cultural and biochemical characteristics of the cultures studied, clearly differentiate them from the earlier isolated strains on the Volga-Ural Sands both in peak epizootic periods as well as in the inter-epizootic years.

1/1

- 36 -

USSR

UDC 539.3 : 534.1

YERZHANOV, ZH. S., and KOKSALOV, K. K.

"Stability of a Composite Plate on an Undeformable Base Subject to Edge Pressure"

Alma-Ata, Izvestiya Akademii Nauk Kazakhskoy SSR, Seriya Fiziko-Matematicheskaya, No 5, Sep-Oct 72, pp 33-39

Abstract: The article considers the stability of a semi-infinite laminated medium lying on an absolutely rigid base, with allowance for horizontal displacements under the action of edge pressure. The variational principle is used to obtain equilibrium equations and elastic stability boundary conditions. An expression is obtained for critical force.

1/1

USSR

UDC 622.011.43

YERZHANOV, ZH. S., and VEKSLER, YU. A.

"Creep and Destruction of Rock During Omnidirectional Compression"

Kiev, Fiz. Svoystva Gorn. Porod pri Vysok. Termodinam. Parametrakh -- Sbornik (Physical Properties of Rock in the Presence of High Thermodynamic Parameters -- Collection of Works), Naukova Dumka, 1971, pp 187-190 (from Referativnyy Zhurnal, Mekhanika, No 2, Feb 72, Abstract No 2V774 by G. M. Sheft r)

Translation: An analysis is given of the results of experiments on the creep and destruction of tubular samples 90-100 mm high with external and internal diameters of 74 and 44 mm, to the external surface of which is applied a uniformly distributed pressure, the value of which was as high as 600 kg/cm<sup>2</sup>. The duration of the experiments comprised on the average 400-600 hours. Shifting of the internal contour u of the sample was determined according to the formula

$$u = 2.3 \frac{p_0 r_0}{E} \left( \int_0^t \frac{d\tau}{T} \right)^{0.85}$$

where  $p_0$  is the external pressure,  $r_0$  is the internal radius of the sample,  $E$  is the modulus of elasticity,  $T$  is the relaxation time,  $t$  is the duration of 1/2

- 99 -

— USSR

YERZHANOV, ZH. S., And VEKSLER, YU. A., Fiz. Svoystva Gorn. Porod. pri Vysok. Termodynam. Parametrakh -- Sbornik, Naukova, Dumka, 1971, pp 187-190

loading. Consideration is given to cases where the value of T is related to time in accordance with an exponential law. A formula determining the longevity of a rock sample is obtained. A graph of the relationship of the longevity logarithm to the activation energy in the pulse of destruction is presented.

2/2

Acc. Nr: **AP0037843**

Ref. Code: UR 0056

PRIMARY SOURCE: Zhurnal Eksperimental'noy i Teoreticheskoy  
Fiziki, 1970, Vol 58, Nr 1, pp 76-79

MAGNETIC HYPERFINE INTERACTION FOR  $\text{Co}^{60}$   
IN Pt-Co ALLOYS

Yerzinkvan, A. L.; Parfenova, V. P.

The magnetic fields on  $\text{Co}^{60}$  nuclei in Pt-Co alloys are measured by the oriented nuclei technique for Co concentration between 8 and 90 at.%. The field strength on the nucleus is practically independent on the Co concentration. The results are compared with the corresponding data for Pd-Co alloys obtained previously [1, 2]. The experimental results point to a significant difference in the interaction of the Co atom magnetic moment with the conductivity electrons in the two matrices.

REEL/FRA  
19730832

18

08



1/2 022 UNCLASSIFIED PROCESSING DATE--11DEC70  
TITLE--EFFECT OF TEMPERATURE ON THE ELECTRICAL CONDUCTIVITY OF FUSED  
BORATE GLASSES -U-  
AUTHOR--(02)--KOSTANYAN, K.A., YERZNIYAN, YE.A.  
COUNTRY OF INFO--USSR  
SOURCE--AFM. KHIM. ZH. 1970, 23(4), 211-18  
DATE PUBLISHED-----70  
SUBJECT AREAS--MATERIALS  
TOPIC TAGS--BORATE GLASS, ELECTRIC CONDUCTIVITY, ISOTHERM, LITHIUM GLASS,  
POTASSIUM COMPOUND, OXIDE GLASS, GLASS COMPOSITION, BORON COMPOUND,  
COMPLEX COMPOUND  
CONTROL MARKING--NO RESTRICTIONS  
DOCUMENT CLASS--UNCLASSIFIED  
PROXY FICHE NO----FD70/605018/C03 STEP NO--UR/0426/70/023/004/0211/0218  
CIRC ACCESSION NO--APC140808  
UNCLASSIFIED

UNCLASSIFIED

PROCESSING DATE--11DEC70

2/2 022

CIRC ACCESSION NO--AP0140808

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. ELEC COND. WAS MEASURED IN THE RANGE OF 500-1400 DEGREES K FOR BORATE GLASSES OF THE LI SUB2 O-MO-B SUB2 O SUB3 AND K SUB2 O-MO-B SUB2 O SUB3 TYPES. PLOTS ARE SHOWN FOR THE GLASSES (FORMULAS SHOWN ON MICROFICHE). ELEC. COND. ISOTHERMS ARE SHOWN FOR LI AND K BORATE GLASSES AS FUNCTIONS OF BIVALENT METAL ADDNS. AN EXPRESSION IS PROPOSED FOR THE CALC. OF THE ELEC. COND. FOR THESE GLASSES. A COND. INCREASE AT HIGHER TEMPS. AT BIVALENT METAL ADDNS. RESULTS FROM 2 PROCESSES: GENERAL COND. INCREASE AT HIGHER TEMPS. AND AN INCREASE OF THE TEMP. FOR GLASSY STATE FORMATION. THE BIVALENT METAL OXIDES PLAY 2 ROLES: THEY FORM A B-O COMPLEX AND THEY FORM BONDS BETWEEN THESE COMPLEXES.

FACILITY: INST. ODSHCH. NEORG. KHIM.,

EREVAN, USSR.

UNCLASSIFIED

1/2 C09 UNCLASSIFIED PROCESSING DATE--20NOV70  
TITLE--CHARACTERISTICS OF DI, SEC, BETA, GLYCOLS -U-  
AUTHOR--(C2)--YESAFGV, V.I., AZARGVA, V.I.  
COUNTRY OF INFO--USSR  
SOURCE--ZH. ORG. KHIM. 1970, 6(4), 678-80  
DATE PUBLISHED-----70  
SUBJECT AREAS--CHEMISTRY  
TOPIC TAGS--GLYCOL, GRIGNARD REAGENT, ORGANIC SYNTHESIS, CHEMICAL  
STABILITY  
CONTROL MARKING--NO RESTRICTIONS  
DOCUMENT CLASS--UNCLASSIFIED  
PROXY REEL/FRAE--2000/2046 STEP NO--UR/0366/70/006/004/0676/0680  
CIRC ACCESSION NO--AP0125634  
UNCLASSIFIED

2/2 CC9 UNCLASSIFIED PROCESSING DATE--20NOV70  
CIRC ACCESSION NO--AP0125634  
ABSTRACT/EXTRACT--(U) GP-O- ABSTRACT. THE ACTION OF GRIGNARD REAGENTS ON  
THE ALDOLS OF BUTYRALDEHYDE OR ISOBUTYRALDEHYDE GAVE (SHOWN ON  
MICROFICHE) IN ACIDS AND ALKALIES. FACILITY: URAL. GOS. UNIV.  
IN. GER'KOSU, SVERDLOVSK, USSR.

UNCLASSIFIED

USSR

YESAKOV, A. I., and DMITRIYEVA, T. M.

Neyrofiziologicheskiye Osnovy Taktily'nogo Vospriyatiya (Neurophysiological Bases of Tactile Perception), Moscow, "Meditsina," 1971, 132 pp

Translation: Annotation: Data is provided about the intimate mechanisms of excitation of the mechano receptors of the skin, the adaptation, organization and properties of peripheral receptor fields. Emphasis is put on questions about the fluctuations in thresholds and the significance of that phenomenon to describe the physiological norm of sensitivity. A description is given of characteristics of lateral interaction among field receptors and receptors surrounding the receptor fields and the mechanism of its accomplishment. Aspects of the morphofunctional organization of the central pathways of the tactile analyser and properties of the central sensory switching on all levels of transmission of tactile information are elucidated. An examination is made of mechanisms of descending effects on the activity of the central sensory switching, as well as questions of efferent regulation of the apparatus of the tactile receptors. A description is given of the somatic and sympathetic paths of regulation of tactile receptors and the role of mediators in such regulation. The present status of the questions about the specificity of skin receptors is discussed.

1/3

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USSR

YESAKOV, A. I., and DMITRIYEVA, T. M., Neyrofiziologicheskiye Osnovy Taktil'nogo Vospriyatiya, Moscow, "Meditsina," 1971, 132 pp

A correlation is made between psychophysiological and electrophysiological research for an understanding of the mechanisms forming the tactile sense in man.

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Chapter II. Organization and Characteristics of the Receptor Field	31
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2/3

USSR

YESAKOV, A. I., and DMITRIYEVA, T. M., Neyrofiziologicheskiye Osnovy Taktil'-  
nogo Vospriyatiya, Moscow, "Meditsina," 1971, 132 pp

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Chapter VIII. Descending Effects on the Activity of the  
Switching Relay of the Tactile Analysor

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Chapter IX. The Status of the Question of the Specificity of  
the Skin's Mechano Receptors

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Chapter X. Subjective and Objective Methods of Investigating  
the Sensory Systems

115

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Bibliography

3/3

- 100 -

1/2 030 UNCLASSIFIED PROCESSING DATE--04DEC70  
TITLE--STUDY OF A PLATINUM, BARIUM ALLOY IN A FIELD EMISSION MICROSCOPE -U-  
AUTHOR--(02)-ZUBENKO, YU.V., YESAULOV, N.P.  
COUNTRY OF INFO--USSR  
SOURCE--FIZIKA TVERDOGO TELA, MAR. 1970, 12, (3), 852-855  
DATE PUBLISHED--MAR 70  
SUBJECT AREAS--MATERIALS, PHYSICS  
TOPIC TAGS--ELECTRON MICROSCOPY, SINGLE CRYSTAL, PLATINUM, CRYSTAL  
STRUCTURE, BARIUM ALLOY  
CONTROL MARKING--NO RESTRICTIONS  
DOCUMENT CLASS--UNCLASSIFIED  
PROXY REEL/FRA--3003/0153 STEP NO--UR/0181/70/012/003/0852/0855  
CIRC ACCESSION NO--AP0129409  
UNCLASSIFIED



2/2 030

UNCLASSIFIED

PROCESSING DATE--04DEC70

CIRC ACCESSION NO---AP0129409

ABSTRACT/EXTRACT---(U) GP-0- ABSTRACT. THE EMISSION IMAGES OF A PT-1.3 WT. PERCENT BA SINGLE CRYSTAL WERE STUDIED IN A FIELD EMISSION ELECTRON MICROSCOPE AFTER HEAT TREATMENT AT VARIOUS TEMP. (1000-1900DEGREESK). THE IMAGES THUS OBTAINED GAVE A CLEAR PICTURE OF THE GRADUAL FORMATION OF AN ADSORBED BA FILM AND ITS GENERAL BEHAVIOUS ON THE SURFACE ON THE ALLOY. ON HEATING THE CRYSTAL TO 1050DEGREESK AND CAREFULLY RAISING THE APPLIED VOLTAGE AN EMISSION PICTURE IN WHICH THE CENTRAL DARK (111) FACE APPEARED SURROUNDED BY A BRIGHT HALO WAS OBTAINED. 15 REF.

UNCLASSIFIED

1/2 018 UNCLASSIFIED PROCESSING DATE--23OCT70  
TITLE--X RAY DIFFRACTION STUDY OF PLATINUM BARIUM AND PALLADIUM BARIUM  
ALLOYS IN THE REGION OF PT SUB5 BA AND PD SUB5 BA COMPOSITIONS -U-  
AUTHOR-(03)-ZHURAVLEV, N.N., YESAULOV, N.P., RALL, I.V.  
COUNTRY OF INFO--USSR  
SOURCE--KRISTALLOGRAFIYA 1970, 15(2), 374-6  
DATE PUBLISHED-----70  
SUBJECT AREAS--MATERIALS, CHEMISTRY, PHYSICS  
TOPIC TAGS--X RAY DIFFRACTION, PLATINUM ALLOY, PALLADIUM ALLOY, BARIUM  
ALLOY, MICROSCOPY ALLOY, BARIUM COMPOUND, X RAY EMISSION  
CONTROL MARKING--NO RESTRICTIONS  
DOCUMENT CLASS--UNCLASSIFIED  
PROXY REEL/FRA--1997/0320 STEP NO--UR/0070/70/015/002/0374/0376  
CIRC ACCESSION NO--AP0119307  
UNCLASSIFIED

2/2 018

UNCLASSIFIED

PROCESSING DATE--23OCT70

CIRC ACCESSION NO--AP0119307

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. PT-BA AND PD-BA ALLOYS THAT ARE RICH IN PT AND PD HAVE EMISSIVE PROPERTIES. AN ALLOY CORRESPONDING TO THE PT SUB5 BA COMPN. WAS HOMOGENIZED AT 1320DEGREES IN A PROTECTIVE ATM. OF AR FOR 50 HR AND THEN ANNEALED AT 800DEGREES FOR 30 HR AND AT 700DEGREES FOR 50 HR. INTENSITIES WERE MEASURED WITH A DIFFRACTOMETER BY USING MICROSCOPIC CONTROLLED MICROSECTIONS PROTECTED WITH PARAFFIN WAX. THE COMPD. IS STABLE IN THE ABOVE TEMP. RANGE, DESPITE PREVIOUS DATA (T. HEUMANN, CA 45:6451G), AND IT PRESERVES THE STRUCTURE OF THE CACU SUB5 TYPE WITH A EQUALS 5.505 PLUS OR MINUS 0.006 AND C EQUALS 4.337 PLUS OR MINUS 0.0009 ANGSTROM. THE DIFFERENT DIFFRACTOGRAMS REVEALED DIFFERENT INTENSITIES, WHICH MIGHT BE DUE TO VARIOUS DEGREES OF DECOMPN. OF PT SUB5 BA ON THE MICROSECTION SURFACE UNDER THE INFLUENCE OF THE ATM. PD SUB5 BA WITH A EQUALS 5.54 PLUS OR MINUS 0.01 AND C EQUALS 4.33 PLUS OR MINUS 0.02 ANGSTROM IS ISOMORPHIC WITH PT SUB5 BA.

FACILITY: MOSK. GOS. UNIV. IM. LOMONOSOVA, MOSCOW, USSR.

UNCLASSIFIED

USSR

UDC 632.95

YESAYAN, G. T., DABRUEYAN, G. A., KHACHATRYAN, R. M., LABAYAN, A. A.,  
KHACHATRYAN, V. S., Institute of Organic Chemistry, Academy of Sciences  
Armenian SSR

"A Method of Preparing 3-Nitro-4-oxybenzyl Ether of 2,4-Dichlorophenoxyacetic  
Acid"

USSR Authors' Certificate No 243657, filed 24 Jun 68, published 26 Feb 70  
(from Referativnyy Zhurnal Khimii, No 17, 10 Sept 70, Abstract No 17 1643 P)

Translation: 3-Nitro-4-oxybenzyl ether of 2,4-dichlorophenoxyacetic acid (I)  
is excess of formalin, and a 500-1000% excess of hydrochloric acid at 85-  
100°C with subsequent condensation of the resultant 3-nitro-4-oxybenzylchloride  
(III) with the sodium salt of 2,4-D at 90-100°C for 12 hrs in PhMe or xylene.  
600 gm II, 600 gm 34% CH<sub>2</sub>O, and 3600 ml 35% hydrochloric acid are heated to  
90-95°C with agitation for 12 hrs, then poured into a beaker for crystalliza-  
tion; the excess acid is removed by decanting, and the product is washed in  
water to produce 750 gm III. 187 gm of unpurified compound III, 315 gm of  
the sodium salt of 2,4-D and 100 ml PhMe are heated at 100°C for 12 hrs; after  
water filtering, the product is dried in air. The result is 357 gm I with a  
yield of 95.9%, melting point 95°C (CCl<sub>4</sub>). I has herbicidal properties against  
weeds in corn, potatoes, and grapes.

1/1

A. F. Prokof'yeva

1/2 020  
UNCLASSIFIED  
TITLE--NEW EPOXY POLYAMIDE PRIME COATS AND ENAMELS -U-  
PROCESSING DATE--02OCT70  
AUTHOR--(04)-CHEBOTARVESKIY, V.V., YESELEV, A.D., SMIRNOVA, L.I., GABIRUV,  
I.Z.  
COUNTRY OF INFO--USSR  
SOURCE--LAKCKRASOCH. MATER. IKH. PRIMEN. 1970, (1), 22-5  
DATE PUBLISHED-----70  
SUBJECT AREAS--MATERIALS  
TOPIC TAGS--ENAMEL, PROTECTIVE COATING, EPOXY RESIN, PAINT, GASOLINE,  
KEROSENE, FERTILIZER, THERMAL STABILITY, CHEMICAL STABILITY/(U)EP076  
PRIMER, (U)EP140 ENAMEL, (U)EP076T PAINT, (U)PD200 PAINT RESIN, (U)EP09T  
COATING, (U)A63A PRIMER  
CONTROL MARKING--NO RESTRICTIONS  
DOCUMENT CLASS--UNCLASSIFIED  
PROXY REEL/FRA--1989/0554  
STEP NO--UR/0303/70/000/001/0022/0025  
CIRC ACCESSION NO--AP0107159  
UNCLASSIFIED

2/2 020

UNCLASSIFIED

PROCESSING DATE--02JCT70

CIRC ACCESSION NO--AP0107159

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. FORMULATIONS WERE DEVELOPED FOR EPOXY RESIN POLYAMIDE EP-076 PRIMER (I) AND EP-140 ENAMEL (II). I WAS COMPOSED OF EP-076T PAINT AND HARDENER NO. 2 (III) (A 30PERCENT PD-200 RESIN SOLN.) WHICH WERE BLENDED IN 75:25 RATIO JUST PRIOR TO APPLICATION; II WAS ALSO COMPOSED OF A PAINT AND III, AND WAS AVAILABLE IN A VARIETY OF COLORS. THE 2 COATINGS HAD SIMILAR PHYSICOMECH. PROPERTIES, BUT I (DUE TO THE SPECIFIC STRUCTURE OF POLYAMIDES) WAS INTERNALLY PLASTICIZED, WHICH MARKEDLY IMPROVED ITS THERMAL STABILITY AND AGING RESISTANCE. A 4 YEAR STUDY OF II APPLIED OVER AN AG-3A PRIMER SUGGESTED THAT THE FORMER EXHIBITED GOOD WEATHERABILITY AND RESISTANCE TO GASOLINE, KEROSENE, NH SUB4 OH, AND VARIOUS DETERGENTS. II CAN BE EFFECTIVELY USED AS A PROTECTIVE COATING IN PLANTS MANUFG. N FERTILIZERS. I COATINGS WERE MARKEDLY MORE PROCESSABLE THAN EP-09T COATING AND HAD SUPERIOR HARDNESS, THERMAL STABILITY, AND OIL RESISTANCE.

UNCLASSIFIED

YESSELEV, N. KH

Journalist  
Union

AUDITING COMMISSION ASSESSES THE WORK OF JOURNALISTS' UNION

Report of N. N. Vozel, Chairman of Central Auditing Commission, Union of Journalists' Work, Life Style, and Discipline, Moscow, Journalist, Russian, No 1, January 1972, pp 13-14

In checking the financial and economic activity of the Board of the Union and the status of the accounts and reports of the Board and the organizations under its jurisdiction, the Central Auditing Commission is deeply concerned about the manner in which the work of the Union is conducted. The members of the Central Auditing Commission have been checking the work of the Republic and oblast organizations and that of the auditing commissions.

The Union now has at its command considerable resources for organizing creative work on a wide scale at the center and at the sites. It has all the potentialities for further development along diverse, economically-oriented lines closely linked with the concrete goals of the work of the journalistic organizations.

The size of these funds has been increasing from year to year. By the time of the second congress the income of the Board of the Union was not much more than 1.2 million rubles. In 1970 it increased to more than 1.8 million rubles. At the present time the Board of the Union possesses unaccounted funds amounting to about 2.5 million rubles. These funds are derived from income from publishing and economic activity.

As you can see, the funds are not inconsiderable. But they require wise and careful expenditure. How are they actually being spent?

At the last congress it was stated that more than 40 percent of all funds were being used for organizational and creative work and for international relations. In 1970 this proportion increased to 50 percent.

The basic creative items have been directed to organizational and creative work: constructive conferences and seminars, competition

Thermodynamics

USSR

UDC 532.132

DIKINA, L. S., YESEL'SON, B. N., NOVIKOV, P. S., RUDAVSKIY, E. Ya., Physico-technical Institute of Low Temperatures, Academy of Sciences of the UkrSSR, Khar'kov

"Dispersion of Heat Waves in He-II With a Damped Normal Component"

Kiev, Ukrainskiy Fizicheskiy Zhurnal, Vol 17, No 12, Dec 72, pp 1989-1996

Abstract: The authors study the velocity of heat waves in narrow channels filled with superfluid helium. A carbon film was used as the radiator, and a thin antimony-doped germanium single crystal acted as the receiver. The heat waves propagated in narrow channels formed by fine glass filaments. The measurements were made by the pulse-phase method in the substitute  $1.4^{\circ}\text{K}-T_{\lambda}$  temperature interval at radiation frequencies of 0.6, 2.0, and 3.0 kHz. It is shown that as the frequencies decrease with increasing depth of penetration of the viscous wave there is an increase in damping of the normal component and, hence, an increase in the degree of dispersion of the heat waves. The variation of the heat wave velocity in the temperature and frequency agrees satisfactorily with theoretical predictions if the mean effective dimension of the channels is taken as the normalizing parameter.

1/1



USSR

UDC 532.132

GRIGOR'YEV, V. N., GULIN, B. A., YESEL'SON, B. N., KOREPANOV,  
V. D., MIKHEYEV, V. A.

"Device for Investigating Diffusion and Magnetic Characteristics  
of  $^3\text{He}$  and  $^3\text{He}$ - $^4\text{He}$  Solutions by the Spin Echo Method"

Trudy, Fiziko-tekhnicheskiiy institut nizkikh temperatur (Physico-  
technical Institute for Low Temperatures--collection of works)  
Academy of Sciences, Ukrainian SSR, No. 10, 1970, pp 166-177 (from  
RZh-Fizika, No. 9, 1971, Abstract No. 9E36)

Translation: The description is given of a spin echo device, de-  
signed for investigating the characteristics of  $^3\text{He}$  and  $^3\text{He}$ - $^4\text{He}$   
solutions in the liquid and solid states. The device permits mea-  
surements of the coefficient of diffusion, the magnetic suscepti-  
bility, and the magnetic relaxation time, as they vary in a broad  
range. The results of controlled measurements of the diffusion co-  
efficient in liquid  $^3\text{He}$  at various pressures are given. These re-  
sults correspond well with the results obtained by other authors.  
Author's abstract.

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YESENIN, VI.

RADIOTELEMETRY STUDIES IN SOME GASTROINTESTINAL DISEASES

Article by A. S. Kaplanchuk and V. I. Yesenin; Moscow, Soviet Medical Journal, No. 6, 1972, pp. 82-83.

UDC 616.33.002+616.342-0021-07

The first Soviet radiotelemetry apparatus for gastroenterology was designed by the engineers A. I. Sorin and Academician Ye. B. Babitsky. Radio-capsules (miniature radio transmitters) are now available for determining the pH, pressure, and temperature of the gastrointestinal tract.

We used a complete radiotelemetry apparatus to investigate gastric acidity in 243 patients: 56 with gastric ulcer, 169 with duodenal ulcer, 38 with different forms of chronic gastritis. The distribution of patients by age and duration of the disease is shown in Table 1. We maintained conditions to ensure comparability of the results obtained in the individual patients. The pH was measured in specific places in the digestive tract. The capsules were secured in the lumen of the body of stomach with silk thread (30 to 55 cm from the teeth). The intragastric pH was recorded in basal condition and after a test breakfast. The examination usually took a total of 2 1/2 to 3 hours. The patients tolerated the procedure well.

Table 1

Diagnosis	Number of patients examined	Males	Females	Age										Duration of disease											
				30-40 years	41-50 years	51-60 years	61-70 years	71-80 years	more than 80 years	5 years	6-10 years	11-15 years	16-20 years	more than 20 years	5 years	6-10 years	11-15 years	16-20 years	more than 20 years						
Duodenal ulcer	149	127	22	35	49	38	7	1	1	1	50	43	37	3	16										
Gastric ulcer	56	42	14	19	20	11	3	3	3	3	22	14	10	2	8										
Chronic gastritis	38	29	9	6	13	14	4	1	1	1	12	3	7	3	13										
Total	243	198	45	60	82	63	14	4	4	4	84	60	54	8	37										

*File not found - 102 - #6, 1972*

YESENKINA, N.A.

*Radioastronomy*

DETERMINATION OF THE POLARIZATION CHARACTERISTICS OF THE LARGE PULSAR RADIOELECTROSCOPES

*Radioastronomy*

*1/c*

Article by N.A. Yesenkina, N.S. Rakhvalov, J.G. Vasil'yeva, N.A. Sobol'mova, and A.V. Gerasimova, of the Leningrad branch of the Special Astrophysical Observatory of the USSR Academy of Sciences, Moscow, Izvestiya Vsesoyuznogo uchebnoykh zavedeniyy -- Radiofizika, Russian, Vol 16, No 5, 1973, submitted 11 October 1972, pp 669-675

UDC 621.396.629.523.164

SO: JPRS 59985

7 SEP 73

(2)

6/20/73

Investigation of radio-frequency radiation sources try to determine the distribution of the radiowave intensity in all Stokes' parameters I, Q, U, and V. However, both the medium in which the radio-frequency radiation is propagated and the antenna and receiver affect the true parameters of the source I<sub>0</sub>, Q<sub>0</sub>, U<sub>0</sub>, and V<sub>0</sub>. Therefore, the Stokes' parameters at the receiver output differ from the sources' true parameters and are linked with the following relationship [1]:

$$S_{out} = A_1 M_1 S_0 \quad (1)$$

Here  $S_{out} = \begin{bmatrix} I_{out} \\ Q_{out} \\ U_{out} \\ V_{out} \end{bmatrix}$  is the vector parameter of Stokes' output radiation,

$S_0 = \begin{bmatrix} I_0 \\ Q_0 \\ U_0 \\ V_0 \end{bmatrix}$  is the Stokes' vector parameter of the input or radiation being studied, and

M<sub>1</sub>, M<sub>2</sub>, and M<sub>3</sub> are the matrix operators, with matrix M<sub>1</sub> describing the effect of the receiver-amplifying equipment and the input circuit on the radiation being studied, M the effect of the antenna system, and M<sub>2</sub> the effect of the medium between the source and the observer.

USSR

YESENOV, SH. YE., Academician, Academy of Sciences, Kazakh SSSR, and DAL'YAN, I. B., Candidate of Geological and Mineralogical Sciences

"Aspects of the Exploration of Large Occurrences of Oil and Gas in Subsalt Rock of the Eastern Outskirts of the Caspian Depression"

Alma-Ata, Vestnik Akademii Nauk Kazakhskoy SSR, No 3, March 1973, pp 3-10

Abstract: Results of the drilling of deep and superdeep wells in subsalt rock, conducted by the Aktyubinsk and Gur'yevsk oil and gas prospecting expeditions, show that in the eastern and southeastern sections this rock contains manifestations of oil and gas in a broad stratigraphic range: from the Artinsk stage to the lower Carboniferous. The most abundant oil and gas manifestations, accompanied by outbursts, were obtained in the eastern zone near the edge from Artinsk terrigenous rock in well 88-P on the Kenkiyak platform, where the productive bed occurs in the 3886-3918-meter interval (recently, abundant oil and gas manifestations have been observed in well 38-P Ostansuk, interval 3482-3490 from Assel'sk rock, and in well 25-P Karatyube, interval 4225-4258 from Artinsk rock). In addition, intensive oil and gas manifestations with outbursts have been noted in the southeast part of the depression in well SG-2 on the Biikzhal platform from Artinsk rock in the 5250-5400-meter interval.

1/2 Oil from well 88-P-Kenkiyak has a density of 0.8384 g/cm<sup>3</sup> and a

USSR

YESEN OV, SH. YE and DAL'YAN, I. B., Vestnik Akademii Nauk Kazakhskoy SSR,  
No 3, March 1973, pp 3-10

viscosity, at 20°C, of 9.07 Centistoke. It is of the benzine-kerosene type, with an initial boiling point of 84°C and a fraction yield of 25% up to 200°C and 48% up to 300°C. In well SG-2 Biikzhal, in spite of the great depth of occurrence of the productive bed, the oil has great density -- 0.8998 g/cm<sup>3</sup> and a viscosity, at 20°C, of 97.54 Centistoke. The oil is of the kerosene type, with an initial boiling point of 176°C, a fraction yield of not more than 4% up to 200°C and 34% up to 300°C. Such a difference in the characteristics of oils from contemporaneous rock may be connected with the relatively smaller depth of occurrence of the bed at Kendiyak, and the distribution of the oils in the profile in accordance with their specific gravities. 4 figures, 1 table. 9 references.

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USSR

UDC 523.164

YESEPKINA, N. A., PETRUN'KIN, V. Yu., SOBOLEVA, N. S., and REYNER, A. V.

"Polarization Observations in an Antenna of Variable Profile"

Gor'kiy, Izvestiya VUZ--Radiofizika, Vol 14, No 8, 1971, pp 1149-1159

Abstract: A method is considered for eliminating parasitic polarization in antennas of variable profile through the use of a grid of curved wires. A description is also given of experiments performed at the Large Radiotelescope of the Pulkova Observatory to verify the effectiveness of the new design and the conclusions reached by the authors. Equations are derived for determining the shape of the grid wires on the basis of an earlier paper written by the first author named above (Radiotekhnika i elektronika, 6, No 12, 1961, page 1947). To design the grid, the authors use the focal synthesis method, in which the antenna is assumed to be excited by a plane wave with constant polarization. This permits determination of the field polarization at a given surface close to the focal plane. The grid which would permit the synthesis of the field distribution found by this method is then chosen. The authors thank G. M. Timofeyeva for her assistance, consisting of observation of solar circular polarization with the grid. The authors are connected with the Chief Astronomical Observatory.

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Antennas

UDC 523.164

USSR

YESEPKINA, N. A.

"Polarization Characteristics of Radiotelescope Antennas"

Gor'kiy, Izvestiya Vysshikh Uchebnykh Zavedeniy, Radiofizika, Vol XIV, No 5, 1971, pp 673-679

Abstract: A study is made of the polarization characteristics of various radio telescope antennas on reception of partially polarized radiation considering the spurious polarization occurring in the antenna system itself. The polarization characteristics of the antenna are represented in the form of a  $(4 \times 4)$ -matrix (the Muller matrix [Muller, JOSA, Vol 38, 666 (A), 1948]) relating the Stokes parameters of the radiation at the antenna input and output. This method of presenting the polarization characteristics of radiotelescopes is suitable for studying completely polarized, partially polarized and unpolarized radiation. Analogous results can be obtained by coherent matrixes, but the Muller method turns out to be physically more graphic.

1/1

1/2 023  
UNCLASSIFIED  
PROCESSING DATE--16OCT70  
TITLE--SURVIVAL AND BIOLOGICAL PROPERTIES OF STREPTOCOCCI GROUP A UNDER  
CONDITIONS OF EXPERIMENTAL STREPTOCOCCUS INFECTION TREATED WITH  
AUTHOR--(04)--LABINSKAYA, A.S., PONOMAREVA, YE.P., AKHNAZAROVA, V.D.,  
YESHCHINA, A.S.  
COUNTRY OF INFO--USSR  
SOURCE--ZHURNAL MIKROBIOLOGII, EPIDEMIOLOGII I IMMUNOBIOLOGII, 1970, NR 5,  
PP 105-108  
DATE PUBLISHED--70  
SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES  
TOPIC TAGS--STAPHYLOCOCCUS INFECTION, ANTIGEN, BLOOD SERUM,  
ANTIBIOTIC/(U)BICILLIN ANTIBIOTIC  
CONTROL MARKING--NO RESTRICTIONS  
DOCUMENT CLASS--UNCLASSIFIED  
PROXY REEL/FAME--1994/0132  
STEP NO--UR/0016/70/000/005/0105/0108  
CIRC ACCESSION NO--AP0114528  
UNCLASSIFIED



UNCLASSIFIED

PROCESSING DATE--16OCT70

2/2 023

CIRC ACCESSION NO--AP0114528

ABSTRACT/EXTRACT--(U) GP-0-

ABSTRACT.

THE PAPER TREATS OF THE RESULTS OF

STUDYING THE SURVIVAL AND VARIABILITY OF STREPTOCOCCUS A OF CULTURES

UNDER THE EFFECT OF THERAPEUTIC CONCENTRATIONS OF BICILLIN IN AN

EXPERIMENTAL FOCUS OF CHRONIC INFECTION CREATED BY RASKA'S METHOD

(1962). IN BICILLIN TREATED ANIMALS VIABLE STREPTOCOCCUS A CELLS WERE

REVEALED FOR A PERIOD OF 3 WEEKS, AND IN CONTROL ANIMALS, DURING THE

WHOLE OBSERVATION PERIOD (FOR 8 WEEKS). STREPTOCOCCI ALTERED IN

MORPHOLOGICAL AND IN CULTURAL RESPECT IN THE ORGANISM OF CONTROL AND,

PARTICULARLY, OF EXPERIMENTAL ANIMALS. AS A RULE, REDUCTION AND LOSS OF

HEMOLYTIC ACTIVITY OF STREPTOCOCCI WAS ACCOMPANIED BY CHANGES IN THE

STRUCTURE OF AN ANTIGENIC APPARATUS; DUE TO THIS MICROBIAL CULTURES

FAILED TO REACT IN PRECIPITATION REACTION AT FIRST WITH THE GROUP, AND

LATER WITH THE TYPE HOMOLOGOUS ANTISTREPTOCOCCUS SERUM. STREPTOCOCCUS

ANTIGEN WAS REVEALED IN THE BLOOD SERUM OF MANY EXPERIMENTAL ANIMALS AT

LATE OBSERVATION PERIODS, WHEN BACTERIOLOGICAL EXAMINATION FOR

STREPTOCOCCI OF THE CONTENTS OF THE CHAMBERS ALREADY PROVED TO BE

NEGATIVE.

UNCLASSIFIED

FACILITY: INSTITUT REVMAIZMA AMN SSSR, MOSCOW.

Acc. Nr.:

AP0046769

Ref. Code:

UR0125

USSR

UDC 621.791.7:621.387.143.546.831

YESIBYAN, E. M., DANCHENKO, M. YE.

"Energy Properties of an Arc with a Zirconium Cathode"

Kiev, Avtomaticheskaya Svarka (Automatic Welding), No 1, 1970, pp 5-8  
(from Avtomaticheskaya Svarka, No 1, 1970, p 79)

Translation: This article contains a study of the static volt-ampere characteristics and power balance of an open and compressed arc with a zirconium cathode in air and in argon. These characteristics are compared with the parameters of the arc with a tungsten electrode in argon. There are 7 illustrations and a 7-entry bibliography.

Reel/Frame

19790073

USSR

UDC 621.317:621.317.727

POPOV, A. S., YESIKOV, YU. S., ZAKHARKIN, B. V.

"Wide-Band Phase Converter"

Sb. nauch. soobshch. Radiotekhn. fak. Dagestan. un-t (Collection of Scientific Reports. Radio Engineering Department. Dagestan University), 1970, No 1, pp 124-128 (from RZh-Radiotekhnika, No 10, Oct 71, Abstract No 10A181)

Translation: A study was made of the problem of using RC-circuits in a phase conversion circuit from the point of view of obtaining a constant output voltage in a wide-frequency band. Application of emitter followers with low input impedance and a negative feedback circuit (an amplifier with a dynamic load,  $k = 1,000$ ) permit variation of the phase of the supplied voltage from units of degrees to  $150-160^\circ$  in a wide-frequency band and operation on a low-impedance load. In conclusion, a practical phase converter scheme and its technical specifications are presented.

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1/2 015 UNCLASSIFIED PROCESSING DATE--20NOV70  
TITLE--MECHANISM OF THE ELECTROREDUCTION OF ORGANOMERCURY SALTS -U-  
AUTHOR--(05)--YESIKOVA, I.A., TEMKIN, D.N., TOMILOV, A.P., FLID, R.M.,  
YAKOVLEVA, N.N.  
COUNTRY OF INFO--USSR  
SOURCE--Zh. Fiz. Khim. 1970, 44(1), 264-5 (RUSS)  
DATE PUBLISHED-----70  
SUBJECT AREAS--CHEMISTRY  
TOPIC TAGS--ELECTROLYTIC REDUCTION, ORGANOMERCURY COMPOUND, CHEMICAL  
REACTION MECHANISM, ALCOHOL, ETHANOL  
CONTROL MARKING--NO RESTRICTIONS  
DOCUMENT CLASS--UNCLASSIFIED  
PROXY REEL/FRAME--2000/2063 STEP NO--UR/0076/70/044/001/0264/0265  
CIRC ACCESSION NO--AP0125650  
UNCLASSIFIED

2/2 015 UNCLASSIFIED PROCESSING DATE--20NOV70  
 CIRC ACCESSION NO--AP0125650  
 ABSTRACT/EXTRACT--(U) GP-O- ABSTRACT. THE MECHANISM OF THE ELECTROCHEM. STAGE OF THE ADDN. OF VARIOUS MOLS. TO OLEFINS IN AN ELECTROCHEM. SYSTEM IN THE PRESENCE OF HG SALTS WAS STUDIED: C SUBN H SUB2N PLUS HX YIELDS C SUBN H SUB2N POSITIVE 1 X, WHERE X EQUALS OH, OR, RC(O)O, NHR. THE INTERMEDIATE SIGMA ORGANOMETALLIC COMPODS. ARE FORMED FROM OLEFINS AND HG SALTS IN HX SOLNS. AT THE ELECTROLYSIS OF MERCURIOETHANOL SALTS ON A CU AMALGAM CATHODE (PH 14, 0.01 A-CM PRIME2) THE PROCESS OCCURRED IN STEPS. THE MECHANISM OF THE FORMATION OF ALG. AND C SUB2 H SUB4 AT 1.7-1.9 V IS AS FOLLOWS: HG(C SUB2 H SUB4 OH) SUB2 PLUS E PRIME NEGATIVE YIELDS H SUB2 O HGC SUB2 H SUB4 OH PLUS ETOH; HG C SUB2 H SUB4 OH PLUS E PRIME NEGATIVE YIELDS (FAST) (HGC SUB2 H SUB4 OH) PRIME NEGATIVE YIELDS (SLOW) HG PLUS C SUB2 H SUB4 PLUS CH PRIME NEGATIVE. THE SYM. PRODUCT DIETHANOLMERCURY WAS OBTAINED BY ELECTROLYSIS OF 4M MERCURIOETHANOL CHLORIDE SOLN. IN ALK. MEDIA AT 0.8 V. FACILITY: MOSK. INST. TONKOI KHIM. TEKHNL. IM. LOMONOSOVA, MOSCOW, USSR.

UNCLASSIFIED

USSR

UDC: 669.15-198-154:541.13

FUGMAN, G. I., SOTNIKOV, A. I., YESIN, O. A., and BARMIN, L. N., Ural Polytechnic Institute

"Rate of Ion Exchange Between Liquid Ferrotitanium and an Oxide Melt"

Moscow, Izvestiya Vysshikh Uchebnykh Zavedeniy, Chernaya Metallurgiya, No 4, 1973, pp 9-12

Abstract: The authors study the use of the Faraday impedance method for finding the kinetic parameters of the oxidation-reduction processes taking place between metal and slag under retarded relaxation conditions of a double electric layer. It is shown that the use of standard methods for processing experimental data can result in significant error. Methodology is proposed for determining the exchange current ( $i_0$ ) by analyzing the active component of the electrode impedance. The methodology is used in analyzing the results of the measurements in the ferrotitanium-slag system. The concentration relationship  $i_0$  of titanium is studied for the 1450-1550°C interval at 3-16 percent titanium in the metal and 0.5-5.0 percent  $TiO_2$  in the slag. A kinetics equation is proposed for calculating  $i_0$ .

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USSR

UDC 620.193.43

BULER, P. I., TOFORISHCHEV, G. A., YESIN, O. A., KOPYSOV, V. A.,  
and LEPINSKIKH, V. B., Ural Polytechnic Institute imeni  
S. M. Kirov

"Anodic Behavior of Nickel in Melted Sodium Tetraborate"

Moscow, Zashchita Metallov, Vol 19, No 2, Mar-Apr 73, pp 196-198

Abstract: The anodic oxidation of nickel in melted sodium tetraborate was investigated in air at 800-900 °. The anodic polarization of Ni (curves  $\Delta j - i$ ) was determined under galvanostatic and potentiostatic conditions. The current efficiency of Ni was defined from the anodic mass decrease and the current efficiency of O from the volume of separated gas. The anodic dissolution of Ni in bivalent form ( $\text{Ni}(\text{metal}) = \text{Ni}^{2+} + 2e$ ) with 80-85% current efficiency is characterized principally by the initial part of the polarization curves. Followed by concentrating polarization, the anodic dissolution of Ni leads to the development of a passivating film. The latter, gaining a hole conductivity, becomes the outer surface of the electrode on which the discharge of oxygen ions is realized. Together with this process, a partial oxidation proceeds of bivalent to trivalent Ni on the oxide-electrolyte boundary. Three figures, eight bibliographic references. 1/1

1/2 016 UNCLASSIFIED PROCESSING DATE--30OCT70  
TITLE--KINETICS OF THE REDUCTION OF MANGANESE FROM SLAG -U-  
AUTHOR--(03)-TOPORISHCHEV, G.A., STRELTSOV, A.K., YESIN, O.A.  
COUNTRY OF INFO--USSR  
SOURCE--IZV. VYSSH. UCHEB. ZAVED., CHERN. MET. 1970, 13(3), 13-17  
DATE PUBLISHED-----70  
SUBJECT AREAS--MATERIALS, CHEMISTRY  
TOPIC TAGS--SLAG, MANGANESE OXIDE, CHEMICAL REDUCTION, SILICON  
CONTROL MARKING--NO RESTRICTIONS  
DOCUMENT CLASS--UNCLASSIFIED  
PROXY REEL/FRA--2000/1547 STEP NO--UR/0148/70/013/003/0013/0017  
CIRC ACCESSION NO--AP0125173  
UNCLASSIFIED



2/2 016

UNCLASSIFIED

PROCESSING DATE--30OCT70

CIRC ACCESSION NO--AP0125173

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. POTENTIOSTATIC AND GALVANOSTATIC METHODS WERE USED TO DET. KINETIC PARAMETERS OF THE REDN. OF MN IN SLAG. MNO (0.03-0.50PERCENT) WAS INTRODUCED INTO THE SLAG ACTING AS AN ELECTROLYTE AND CONSISTING OF 38PERCENT  $\text{SiO}_2$ , 37PERCENT  $\text{CaO}$ , AND 25PERCENT  $\text{Al}_2\text{O}_3$ . MOLTEN IRON, SATD. WITH H  $\text{SiO}_2$  AND CONTG. UP TO 0.4PERCENT MN, SERVED AS A CATHODE. EXPTL. STATIONARY CURVES ARE GIVEN SHOWING SPECIFIC CURRENTS, WHOSE VALUES ARE PROPORTIONAL TO THE CONC. OF MN IN SLAG. UNDER STATIONARY CONDITIONS CATHODIC DEPOSITION OF MN FOLLOWS THE REACTION  $(\text{Mn}^{2+} + 2e^- \rightarrow \text{Mn})$ ; THE RATE OF THIS REACTION IS LIMITED BY THE SLOW DIFFUSION OF  $\text{Mn}^{2+}$  POSITIVE IN THE SLAG. THIS TEMP. DEPENDENT DIFFUSION CONST. WAS DETD. AS  $D_{\text{Mn}^{2+}} \text{ POSITIVE} = 9.8 \times 10^{-6} \text{ CM}^2 \text{ SEC}^{-1} \exp \left( \frac{-13,000}{T} \right)$  CM PRIME2-SEC FROM EXPTL. DATA AT 1632 AND 1673 DEGREES. THE REDN. OF MN FROM SLAG BY C IS ASSUMED TO FOLLOW THE SCHEME  $(\text{MnO}) + (\text{C}) \rightarrow (\text{Mn}) + (\text{CO})$ , WITH AN EQUIL. CONST.  $\log K_{\text{SUB1}} = 14,570 - \frac{T}{1000} + 8.57$ . IF THE METAL CONTAINS SI AT A CONC. MUCH HIGHER THAN EQUIL., THEN THE POSSIBLE PROCESS IS  $(\text{MnO}) + (\text{Si}) \rightarrow (\text{Mn}) + (\text{SiO})$ , WITH EQUIL. CONST.  $\log K_{\text{SUB2}} = 4180 - \frac{T}{1000} - 1.75 \log T + 5.27$ . CALCNS. SHOW THAT THE RATE OF REDN. WITH SI IS 3 ORDERS HIGHER THAN THAT WITH C. HENCE, IN DIFFUSIONAL REGIME, THE REDN. WITH SI IS MORE PROBABLY. SI ALSO ACCELERATES THE DESULFURIZATION PROCESS.

FACILITY: URAL. POLITEKH. INST., SVERDLOVSK, USSR.

UNCLASSIFIED

1/2 031 UNCLASSIFIED PROCESSING DATE--11DEC70  
TITLE--VISCOSITY OF FUSED SILICATES CONTAINING IRON, MANGANESE, AND  
CALCIUM OXIDES -U-  
AUTHOR--(031)-SUKOLOV, V.I., POPEL, S.I., YESIN, G.A.  
COUNTRY OF INFO--USSR  
SOURCE--IZV. VYSSH. UCHEB. ZAVED., CHERN. MET. 1970, 13(4), 40-5  
DATE PUBLISHED--70  
SUBJECT AREAS--MATERIALS  
TOPIC TAGS--FLUID VISCOSITY, VISCOUS FLOW, SILICATE, IRON OXIDE, MANGANESE  
OXIDE, CALCIUM OXIDE, ACTIVATION ENERGY  
CONTROL MARKING--NO RESTRICTIONS  
DOCUMENT CLASS--UNCLASSIFIED  
PROXY REEL/FRAME--3005/0820 STEP NO--UR/0148/70/013/004/0040/0045  
CIRC ACCESSION NO--A10132910  
UNCLASSIFIED

2/2 031

CIRC ACCESSION NO--AT0132910

UNCLASSIFIED

PROCESSING DATE--11DEC70

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. VISCOSITY MEASUREMENTS WERE PERFORMED FOR MELTS IN THE  $FeO-SiO_2$  SUB2,  $MnO-SiO_2$  SUB2,  $FeO-CaO-SiO_2$  SUB2, AND  $FeO-MnO-SiO_2$  SUB2 SYSTEMS, AS WELL AS FOR THE MELTS OF THE  $FeO-MnO-CaO-SiO_2$  SUB2 SYSTEM IN A CONTROLLED ATM. AND FOR A WIDE TEMP. RANGE. FROM THE TEMP. DEPENDENCE OF THE VISCOSITY, THE ACTIVATION ENERGY OF VISCOUS FLOW WAS DETD. FOR THE  $Mn-SiO_2$  SUB2 SYSTEM, THE VISCOSITY OF THE MELTS IS CONSIDERABLY LESS THAN THE ONE DETD. BY THE COAXIAL CYLINDERS METHOD. WITH INCREASING  $SiO_2$  SUB2 CONTENT IN THE  $MnO-SiO_2$  SUB2 AND  $FeO-SiO_2$  SUB2 SYSTEMS, THE VISCOSITY INCREASES MONOTONICALLY AND IS SIMILAR TO 3 TIMES LARGER FOR THE  $Mn$  SILICATES THAN IT IS FOR THE  $Fe$  SILICATES. THE ACTIVATION ENERGY FOR VISCOUS FLOW FOR  $MnO-SiO_2$  SUB2 MELTS INCREASES IN A REGULAR FASHION WITH INCREASING  $SiO_2$  SUB2 CONTENT, WHICH CANNOT BE STATED FOR THE  $FeO-SiO_2$  SUB2 SYSTEM. AT A CONTENT OF LESS THAN 50PERCENT  $SiO_2$  SUB2,  $MnO-SiO_2$  ANIONS OF O IN THE  $FeO-SiO_2$  SUB2 MELTS ARE THE UNITS OF VISCOUS FLOW. THE MEASUREMENTS SHOWED THAT AT EQUAL  $SiO_2$  SUB2 CONTENT THE  $\eta$  OF THE  $FeO-MnO-SiO_2$  SUB2 MELTS IS HIGHER THAN THE  $\eta$  OF THE  $FeO-SiO_2$  SUB2 SYSTEM. IN 4-COMPONENT  $FeO-CaO-MnO-SiO_2$  SUB2 MELTS, THE PARTIAL SUBSTITUTION OF  $CaO$  AND  $FeO$  BY  $MnO$  ONLY HAS A SLIGHT EFFECT ON THE VISCOSITY, THE MAGNITUDE OF WHICH AT THE SAME  $SiO_2$  SUB2 CONCN. IS CLOSE TO ITS VALUES IN THE BINARY AND THE TERNARY SYSTEMS. FACILITY: URAL. POLITEKH. INST., SVERDLOVSK, USSR.

UNCLASSIFIED

2/2 021

UNCLASSIFIED

PROCESSING DATE--30OCT70

CIRC ACCESSION NO--AT0121382

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE D., VISCOSITY, AND SURFACE TENSION OF MELTS OF THE FEO-MNO-CAO-SIO SUB2 SYSTEM WERE DETD. FROM THE LIQUIDUS LINE TO 1680DEGREES IN AN ATM. OF HIGHLY PURE HE, TO REDEFINE EXISTING DATA AND TO OBTAIN NEW DATA. THE D. WAS DETD. FROM THE CHANGE IN THE MAX. PRESSURE IN THE HE BUBBLE. THE MELTS WERE PREPD. FROM CHEM. PURE REAGENTS. THE D. OF FEO AT 1400DEGREES, OF SIO SUB2 AT 1760DEGREES, AND OF MNO AT 1850DEGREES WERE 4.8, 2.07, AND 4.60 G-CM PRIME3, RESP. THE D. OF MNO, AS WELL AS THAT OF MNO-SIO SUB2 MELTS, HAS NOT BEEN DETD. PREVIOUSLY. THE PARTIAL MOLAR VOLS. OF THE COMPONENTS IN FEO-SIO SUB2 AND CAO-SIO SUB2 MELTS ARE PRACTICALLY CONST. WITHIN A WIDE CONCN. RANGE, AND ONLY NEAR THE ORTHOSILICATE COMPN. DO THEY UNDERGO CHANGES. DESPITE THE PRESENCE OF OTHER COMPS. IN THE SAMPLES, THE MIXING OF ORTHOSILICATES WITH PURE OXIDES AT THE EXPTL. TEMP. PROCEEDS WITHOUT MARKED CHANGE IN VOL.

UNCLASSIFIED

1/2 016 UNCLASSIFIED PROCESSING DATE--30OCT70  
TITLE--NONSTOICHIOMETRY AND MIXED CONDUCTION OF MELTS CONTAINING VANADIUM  
PENTOXIDE -U-  
AUTHOR-(03)-PASTUKHOV, E.A., YESIN, O.A., VATOLIN, N.A.  
COUNTRY OF INFO--USSR  
SOURCE--ELEKTROKIMIYA 1970, 6(4), 453-60  
DATE PUBLISHED-----70  
SUBJECT AREAS--MATERIALS  
TOPIC TAGS--VANADIUM PENTOXIDE, VANADIUM OXIDE, LEAD OXIDE, CALCIUM OXIDE,  
ELECTROMOTIVE FORCE, ELECTRICAL CONDUCTIVITY, THERMAL EFFECT  
CONTROL MARKING--NO RESTRICTIONS  
DOCUMENT CLASS--UNCLASSIFIED  
PROXY REEL/FRAE--1998/1150 STEP NO--UR/0364/70/006/004/0453/0460  
CIRC ACCESSION NO--AP0121709  
UNCLASSIFIED

2/2 016

UNCLASSIFIED

PROCESSING DATE--30OCT70

CIRC ACCESSION NO--AP0121709

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE SYSTEMS V SUB2 O SUB5-PB0, V SUB2 O SUB5-CA0, AND V SUB2 O SUB5-M SUBX O SUBY WERE STUDIED TO INVESTIGATE THE TRANSITION FROM ELECTRONIC TO IONIC CONDUCTION. THE EMF. AND ELEC. COND. WERE MEASURED AS FUNCTIONS OF TEMP., COMPN., AND O PARTIAL PRESSURE, PO. THE FRACTION OF ELECTRONIC CONDUCTION IS TABULATED FOR PO EQUALS 0.95, 0.21, AND 0.03 ATM, 0-100 MOL. PERCENT PB0, AND 830-1030DEGREES FOR V SUB2 O SUB5-PB0; 26-89 MOL. PERCENT CA0 AND 730-1030DEGREES FOR V SUB2 O SUB5-CA0; 0-50 MOL. PERCENT AL SUB2 O SUB3 AND 730-1030DEGREES FOR V SUB2 O SUB5-AL SUB2 O SUB3; 42 AND 95 MOL. PERCENT B SUB2 O SUB3 AND 730-1030DEGREES FOR V SUB2 O SUB5-B SUB2 O SUB3; AND 32 MOL. PERCENT K SUB2 O AND 730-1030DEGREES FOR V SUB2 O SUB5-K SUB2 O. A TRANSITION FROM ELECTRONIC TO IONIC CONDUCTION TAKES PLACE AFTER THE OXIDE ADDNS. THE SMALLER THE POLARIZING STRENGTH OF THE ADDN., THE MORE EASILY IONIC CONDUCTION APPEARS. THE COMPN. DEPENDENCE OF THE ACTIVITY OF V SUB2 O SUB5 IS ALSO PLOTTED. FACILITY: INST. MET., SVERDLOVSK, USSR.

UNCLASSIFIED

1/2 021 UNCLASSIFIED PROCESSING DATE--09OCT70  
TITLE--KINETICS OF MULTICOMPONENT REACTIONS AT METAL SLAG INTERFACE -U-  
AUTHOR-(03)-CHURKIN, A.S., TOPDRISHCHEV, G.A., YESIN, O.A.  
COUNTRY OF INFO--USSR  
SOURCE--IZV. VYSSH. UCHEB. ZAVED., CHERN. MET. 1970, 13(2), 5-9  
DATE PUBLISHED-----70  
  
SUBJECT AREAS--MATERIALS  
  
TOPIC TAGS--IRON OXIDE, MANGANESE OXIDE, MANGANESE, SULFUR, SLAG, CALCIUM  
OXIDE, ALUMINUM OXIDE, MAGNESIUM OXIDE, MULTICOMPONENT CHEMICAL MIXTURE,  
DESULFURIZATION  
  
CONTROL MARKING--NO RESTRICTIONS  
  
DOCUMENT CLASS--UNCLASSIFIED  
PROXY REEL/FRA--1993/1907 STEP NO--UR/0148/70/013/002/0005/0009  
  
CIRC ACCESSION NO--AT0114347

UNCLASSIFIED

2/2 021

UNCLASSIFIED

PROCESSING DATE--09OCT70

CIRC ACCESSION NO--ATO114347

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE EFFECT OF THE SIMULTANEOUS PRESENCE OF MN, MNO, AND FEO ON THE DEGREE OF DESULFURIZING, Z, OF CAST IRON, FE-C SUBSAT-MN-S, WAS STUDIED FOR A SLAG CONTG. CAO 41.5, AL SUB2 O SUB3 52.8, MGO 5.7, AND FEO PLUS MNO 0.2PERCENT. INCREASING THE CONC. OF MN, (MN), IN THE METAL INCREASED Z. INCREASING (MN) (1.95-4.2PERCENT) INCREASED Z SHARPLY AND REDUCED THE PERIOD IN WHICH THE MAX. DEGREE OF POSSIBLE DESULFURIZATION, THETA, WAS ATTAINED. THE EFFECT OF (MN) WAS GREATER THAN WITH THE CONC. OF MN IN THE SLAG (MN). THE EXPTL. RESULTS WERE CORRELATED WITH VALUES CALCD. BY USING EQUATIONS DEVELOPED PREVIOUSLY (CHURKIN, ET AL., 1969). INCREASING (FEO) INCREASED THETA. INCREASING (MN) LOWERED THE PARTICIPATION OF FEO IN THE TRANSFER OF S FROM THE METAL TO THE SLAG. THE ADDN. OF MNO TO THE SLAG LOWERED THE RATE OF DESULFURIZATION. FACILITY: URAL. POLITEKH. INST., SVERDLOVSK, USSR.

UNCLASSIFIED



USSR

UDC: 621.384.633.6

YESIN, S. K., et al, Pribory i Tekhnika Eksperimenta, No 4, 1973,  
pp 20-22

in assembling and installing the orbital perturbation system, and  
to G. V. Badalyan, K. A. Sadoyan, and V. L. Serov for their com-  
ments and discussions.

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USSR

UDC 536.421.4+536.421.1

YESIN, V. O. and PANKIN, G. N.

"Kinetics of the Growth of Dendrites in Tin"

V sb. Kristallizatsiya i faz. prevrashcheniya (Crystallization and Phase Transformations--collection of works) Minsk, "Nauka i tekhn." 1971, pp 152-157 (from RZh-Fizika, No. 9, 1971, Abstract No. 9E381)

Translation: The dependence of the growth rate (GR) of dendrites at the free surface of a pure Sn alloy on the degree to which it is supercooled is investigated. The GR of the dendrites was measured by two independent methods: by rapid cinematography and by two thermocouples (at a distance of 5-8 mm). The highest GR of the Sn dendrites was 624 cm/s for a general supercooling of  $33.6^{\circ}$  of the alloy.

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USSR

UDC 669.25'71:536.722

PETRUSHEVSKIY, M. S., YESIN, Yu. O., GEL'D, P. V., and SANDAKOV, V. M.

"Effect of Short-Range Order on the Heats of Mixing of Cobalt Melts With Aluminum"

Ordzhonikidze, Izvestiya vysshikh uchebnykh zavadeniy, Tsvetnaya metallurgiya, No 2, 1972, pp 21-25

Abstract: According to earlier research by the same authors, cobalt melts with aluminum represent a system with strong interaction between the particles of dissimilar components which does not follow the regularities of the theory of regular solutions. The thermodynamic characteristics of such alloys can be described only by taking into account the effect of the short range order. This study used this approach to estimate the interatomic interaction energies in molten Co-Al alloys, calculate their heats of mixing at 1670°C, and to provide information on the temperature-concentration dependences of their kinematic viscosity and density. (3 illustrations, 6 bibliographic references). [Ural Polytechnic Institute, Department of Physics]

1/1

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1/2 017 UNCLASSIFIED PROCESSING DATE--23OCT70  
TITLE--INHIBITION OF THE OXIDATION OF ISOPRENE RUBBER BY QUINONE IMINES  
-U-  
AUTHOR--(05)-RAEVSKIY, A.B., ROMANOVA, A.B., YESINA, T.I., SHISHKINA, V.V.,  
KOVRIZHKO, L.F.  
COUNTRY OF INFO--USSR  
SOURCE--KAUCH. REZINA, 1970, 29(3), 9-10  
DATE PUBLISHED-----70  
SUBJECT AREAS--MATERIALS  
TOPIC TAGS--OXIDATION INHIBITION, ISOPRENE, QUINONE, IMINE, SYNTHETIC  
RUBBER, EPR SPECTRUM, FREE RADICAL/(U)SKI3 POLYISOPRENE RUBBER  
CONTROL MARKING--NO RESTRICTIONS  
DOCUMENT CLASS--UNCLASSIFIED  
PROXY REEL/FRA--1997/0453 STEP NO--UR/0138/70/029/003/0009/0010  
CIRC ACCESSION NO--AP0119389  
UNCLASSIFIED

2/2 017

UNCLASSIFIED

PROCESSING DATE--23OCT70

CIRC ACCESSION NO--AP0119389

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE ADDN. OF SIMILAR TO 1.0PERCENT N, N-DIPHENYL,P,BENZOQUINONEDIIMINE (I) OR N,BETA,NAPHTHYL,P,BENZOQUINONEDIIMINE (II) TO SKI-3 (POLYISOPRENE RUBBER) IMPROVED ITS RESISTANCE TO OXIDN. AT 120DEGREES. EPR SPECTROSCOPY SHOWED THAT I AND II FORM, DURING HEATING, FREE RADICALS OF LARGE MOL. WTS., WHICH PARTICIPATE IN THE INHIBITION OF SKI-3 OXIDN. FACILITY: VORONEZH, FILIAL VSES. NAUCH.-ISSLED., INST. SIN. KAUCH, IM. LEBEDEVA, VORONEZH, USSR.

UNCLASSIFIED

USSR

Magnetohydrodynamics

UDC: 533.951

YESIPCHUK, Yu. V., MOROZOV, A. I., TILININ, G. N., TROFIMOV, A. V.

"Fundamental Properties of Plasma Oscillations in an Accelerator With Closed Drift and Extended Acceleration Zone"

Leningrad, Zhurnal Tekhnicheskoy Fiziki, Vol 43, No 7, Jul 73, pp 1466-1473

Abstract: The authors investigate oscillations in an accelerator with closed drift and extended acceleration zone. It is shown that oscillations with a fairly high amplitude level are set up in all investigated working modes. The two main types of instabilities having the highest amplitudes are studied. It is shown that in the case of easily ionized working substances, modes with one or the other type of instability -- ionization or drift -- can be independently realized. Previous studies have shown that conductivity anomalously high compared with Coulomb conduction is observed across the magnetic field in an accelerator with closed drift and extended acceleration zone. Based on available data it may be stated that this conductivity is caused by buildup of oscillations in the accelerator, the main contribution apparently coming from transverse amplitude electric fields. Electron drift in crossed electric and magnetic fields intensifies

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USSR

YESIPCHUK, Yu. V., et al., Zhurnal Tekhnicheskoy Fiziki, Vol 43, No 7, pp 1466-1473

transverse diffusion. In previous work transverse conductivity had been connected only with an ionization wave. It is shown that in many modes of operation without an ionization wave, in which drift oscillations are the fundamental waveform, the conductivity across the field is still several orders of magnitude higher than Coulomb conduction. It is hypothesized that the mechanism responsible for both ionization and drift instability may be oscillations with a frequency close to the electron cyclotron frequency.

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1/2 016 UNCLASSIFIED PROCESSING DATE--27NOV70  
TITLE--REFLEX MECHANISMS OF SALIVARY GLAND AND KIDNEY FUNCTION  
CORRELATIONS -U-  
AUTHOR--YESIPENKO, B.YE.  
COUNTRY OF INFO--USSR  
SOURCE--FIZIOL ZH SSSR IM I M SECHENOVA 56(1): 95-101. ILLUS. 1970  
DATE PUBLISHED-----70  
SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES  
TOPIC TAGS--SALIVARY GLAND, KIDNEY FUNCTION, DIET, URINE, REFLEX  
CONTROL MARKING--NO RESTRICTIONS  
DOCUMENT CLASS--UNCLASSIFIED  
PROXY REEL/FRAE--3005/1360 STEP NO--UR/0239/70/056/001/0095/0101  
CIRC ACCESSION NO--AP0133312

UNCLASSIFIED



2/2 016

UNCLASSIFIED

PROCESSING DATE--27NOV70

CIRC ACCESSION NO--AP0133312

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. IN EXPERIMENTS ON 5 DOGS, SALIVARY GLAND STIMULATION WAS ACCOMPLISHED BY FEEDING MEAT BISCUIT POWDER. URINE PRODUCTION WAS STIMULATED BY AN INFUSION OF 500 ML OF TAP WATER THROUGH A GASTRIC FISTULA. THE EXPERIMENTS SHOWED THAT A REFLECTORY MECHANISM ACCOMPLISHED THE FUNCTIONAL RELATION OF SALIVARY GLANDS AND KIDNEY. THE SIGMOID GYRUS SUGGESTED NOT ONLY A REGULATORY BUT ALSO A DEPENDENCY OF THE RECIPROCAL REALTIONSHIP BETWEEN THE VEGETATIVE AND SOMATIC FUNCTIONS. FACILITY: A. A. BUGOMOLETS INST. PHYSIOL., ACAD. SCI. UKR. SSR, KIEV, USSR.

UNCLASSIFIED

USSR

CHEBURKIN, A. V., STEFANI, D. V., LEBEDEVA, N. N., YESIPENKO, N. V., and  
IL'CHENKO, T. P.

"Immunoglobulins in Nasal Secretions of Small Children"

Vopr. Okhrany Materinstva i Detstva (Problems of the Protection of Motherhood  
and Childhood), 1973, No 7, pp 53-57 (from RZh - Biologicheskaya Khimiya, No 22,  
Nov 73, Abstract No 1704)

Translation: By the method of simple radial immunodiffusion it is not possible  
to determine secretory immunoglobulins in the washout of nasal secretions of  
one month old babies. After the age of 2 months a small quantity of immuno-  
globulins of the class A and G are found. From the six months on -- the level  
of IgA is increased, while IgG remains quite low, increasing slightly with age.  
The immunoglobulins of the class M in nasal secretions are absent in small  
babies. High individual fluctuations of IgA may be explained by the lability  
of the system of local immunity. The results obtained support the point of  
view of the local synthesis of class A immunoglobulins.

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USSR

UDC: 621.391.81

YESIPOV, R. A.

"Effect Which the Shape of Probing Signals has on the Resistance to Interference of Resolution in a Generalized (Four-Parameter) Radio Channel in the Case of 'Colored' Noise"

Tr. Kuybyshevsk. aviats. in-t (Works of the Kuybyshev Aviation Institute), 1970, vyp. 44, pp 144-152 (from RZh-Radiotekhnika, No 6, Jun 71, Abstract No 6A77)

Translation: The problem is solved for two detection methods: the method of detection in the presence of interfering signals close in structure to that being detected, and the method based on suppression of interfering signals by appropriate shaping of the reference voltage of the receiver. Expressions are derived for the probability of error and the probability of a false alarm. It is shown that in the case of detection with complete suppression of interfering signals, resolution is poorer than with detection against a background of interfering signals. Two illustrations, bibliography of seven titles. N. S.

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USSR

UDC 621.391:519.2

YESIPOV, B. A., KLOVSKIY, D. D.

"Problems of Conjunction of the Theory of Optimal Reception and Signal Synthesis"  
Radioelektronika v nar. kh-ve SSSR. Ch.1 -- sb. (Radio Electronics in the  
National Economy of the USSR. Part 1 -- collection of works), Kuybyshev, 1970,  
pp 81-90 (from RZh-Radiotekhnika, No 4, Apr 71, Abstract No 4A77)

Translation: The possibility of simultaneous optimization of the signal transmission and reception operations by selecting the shape of the emitted signals is investigated. A method of combining the operations of transmission and reception for random signals is demonstrated. There is 1 illustration and a 2-entry bibliography.

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USSR

UDC: 543.222.2

YESIPOV, I. B., NAUGOL'NYKH, K. A., Acoustics Institute, Academy of Sciences of the USSR, Moscow

"Concerning the Expansion of a Spherical Cavity in a Liquid"

Moscow, Akusticheskiy Zhurnal, Vol 18, No 8, Apr-Jun 72, pp 233-238

Abstract: An approximate analytical solution is found for the Kirkwood-Bethe equations for the problem of expansion of a spherical cavity in a liquid. The characteristics of the resultant pressure wave are determined. The solutions found are compared with the results of numerical integration of the initial Kirkwood-Bethe equations on a digital computer.

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1/2 015 UNCLASSIFIED PROCESSING DATE--20NOV70  
TITLE--EFFECT OF SAMPLE INHOMOGENEITY ON THE BEHAVIOR OF THE  
SUSCEPTIBILITY OF THE SYSTEM NEAR THE CRITICAL POINT -U-  
AUTHOR-(02)-YESIPOV, V.S., MIKULINSKIY, M.A.

COUNTRY OF INFO--USSR

SOURCE--ZHURNAL EKSPERIMENTAL'NOY I TEORETICHESKOY FIZIKI, 1970, VOL 58,  
NR 6, PP 2176-2183  
DATE PUBLISHED-----70

SUBJECT AREAS--PHYSICS

TOPIC TAGS--MAGNETIC SUSCEPTIBILITY, FIELD THEORY, THEORETIC PHYSICS

CONTROL MARKING--NO RESTRICTIONS

DOCUMENT CLASS--UNCLASSIFIED  
PROXY REEL/FRAE--1997/1692

STEP NO--UR/0056/70/058/006/2176/2183

CIRC ACCESSION NO--AP0120404

UNCLASSIFIED

2/2 015

UNCLASSIFIED

PROCESSING DATE--20NOV70

CIRC ACCESSION NO--AP0120404

ABSTRACT/EXTRACT--(U) GP-O- ABSTRACT. BY THE SELF CONSISTENT FIELD THEORY METHOD IT IS SHOWN THAT INHOMOGENEITY OF THE SAMPLE APPRECIABLY AFFECTS THE BEHAVIOR OF THE MAGNETIC SUSCEPTIBILITY NEAR THE CRITICAL POINT. AT THE POINT T SUBC1 AT WHICH INFINITE REGIONS WITH A STABLE ORDER PARAMETER  $\eta$  ARISE, THE SUSCEPTIBILITY POSSESS A WEAK UNOBSERVABLE NONANALYTICITY. AT THIS POINT THE MEAN VALUE OF  $\eta$  OVER THE SAMPLE IS ZERO. AT THE POINT T SUBC2, IN WHICH A NONVANISHING ORDER PARAMETER THROUGHOUT THE SAMPLE ARISES, THE SUSCEPTIBILITY IS INFINITE BUT THE PEAK WIDTH IS VERY SMALL. FACILITY: INSTITUT FIZIKO-TEKHNICHESKIY I RADIOTEKHNICHESKIKH IZMERENIY.

UNCLASSIFIED

USSR

UDC 616.981.551-092.9-07:616.24-005-072.7

KRYZHANOVSKIY, G. N., YESIPOVA, I. K., and KRANCHEV, A. K., Institute of Normal and Pathological Physiology, Academy of Medical Sciences USSR, Moscow

"Changes in the Microcirculation of the Lungs in Experimental Tetanus"

Moscow, Byulleten' Eksperimental'noy Biologii i Meditsiny, No 1, 1973, pp 78-83

Abstract: At the height of tetanus, ascending or hematogenic, induced in rats by intramuscular or intravenous injection of lethal doses of the toxin, light microscopy revealed the following changes in pulmonary tissue: marked dilatation of the alveolar capillaries with numerous erythrocytes and indications of diapedetic bleeding; hemorrhages into the lumens of the bronchi; dilatation of the lumens of the lymphatics; contraction of the smooth muscles of the small veins; foci of atelectasis alternating with foci of ectasia. Electron microscopy revealed the following in the lungs of infected mice: alteration of the ultrastructure of the alveolar capillaries and formed blood elements; local destruction of the external cytoplasmic membranes of endothelial and small alveolar cells, erythrocytes, leukocytes, and thrombocytes; formation and disintegration of vesicles on the surface of the endothelial cells; both vacuolation of erythrocytes and their gradual or instantaneous disintegration

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USSR

KRYZHANOVSKIY, G. N., et al., Byulleten' Eksperimental'noy Biologii i Meditsiny, No 1, 1973, pp 78-83

into spherical fragments in the lumens of the capillaries. No signs of inflammation were noted except in two animals successfully treated with tetanus antitoxin and later sacrificed (both showed symptoms of serous-hemorrhagic pneumonia and bronchitis).

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1/2 026 UNCLASSIFIED PROCESSING DATE--16OCT70  
TITLE--THE MENINGEAL SYNDROME IN DISORDERS OF CEREBRAL CIRCULATION -U-  
AUTHOR--(03)-MARTYNOV, YU.S., YESIPOVA, I.K., KHOKLOV, YU.K.  
COUNTRY OF INFO--USSR  
SOURCE--ZHURNAL NEVROPATOLOGII I PSIKHIATRII IMENI S. S. KORSAKOVA, 1970,  
VOL 70, NR 5, PP 702-708  
DATE PUBLISHED-----70  
SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES  
TOPIC TAGS--CEREBRUM, PAIN, BLOOD CIRCULATION, HEMORRHAGE, THROMBOSIS  
CONTROL MARKING--NO RESTRICTIONS  
DOCUMENT CLASS--UNCLASSIFIED  
PROXY REEL/FRAE--1996/0227 STEP NO--UR/0246/70/070/005/0702/0708  
CIRC ACCESSION NO--AP0117481  
UNCLASSIFIED

UNCLASSIFIED

PROCESSING DATE--16OCT70

2/2 026

CIRC ACCESSION NO--AP0117481

ABSTRACT/EXTRACT--(U) GP-0- ABSTRACT. THE AUTHORS STUDIED CLINICALLY THE FEATURES OF 22 MENINGEAL SYMPTOMS (PAIN AND TONIC) IN 513 CASES WITH DISORDERS OF CEREBRAL CIRCULATION THE AGE GROUP FROM 16-89 YEARS. AMONG THESE CASES 317 HAD ISCHEMIC SOFTENINGS, 189, HEMORRHAGES AND 7, STROKES OF A COMBINED CHARACTER. THE CHARACTER OF THE PROCESS IN 96 CASES WAS CONFIRMED ANATOMICALLY IN THE REMAINING CASES BY A CLINICAL DEVELOPMENT AND LUMBAR PUNCTURE. THE MENINGEAL SYNDROME IN HEMORRHAGIC STROKES WAS SEEN APPROXIMATELY IN 70PERCENT OF THE PATIENTS, IN THROMBOEMBOLIZATION, IN 50PERCENT, IN NONTHROMBOTIC SOFTENINGS, 30PERCENT, IN THROMBOSIS, IN 15PERCENT. IN ALL FORMS OF STROKES THE MOST FREQUENT SIGNS WERE KERNIGS SYMPTOM, OCCIPITAL RIGIDITY, THE LOWER SYMPTOM OF BRUDZINSKI, THE MANDIBULAR SYMPTOM OF BEKHTEREV, PAINFUL POINTS OF KEHRER, MENDEL'S SYMPTOM, PHOTOPHOBIA. THE ORDER OF APPEARANCE OF MENINGEAL SYMPTOMS IS THE SAME FOR THROMBOEMBOLIZATION, NONTHROMBOTIC SOFTENINGS AND THROMBOSIS, AS WELL AS FOR HEMORRHAGES. THE FIRST TO APPEAR WAS THE OCCIPITAL MUSCLE RIGIDITY, THE MANDIBULAR BEKHTEREV SYMPTOM, KERNIGS SYMPTOM AND THE LOWER BRUDZINSKI'S SYMPTOM. IN HEMORRHAGES, ESPECIALLY SUBARACHNOIDAL AND SUBARACHNOIDAL, PARENCHYMATOUS, THE MENINGEAL SYMPTOMS APPEAR EARLIER AND ARE MORE EXPRESSED. FACILITY: KAFEDRY NERVNYKH BOLEZNEY I PATOLOGICHESKOY MORFOLOGII UNIVERSITETA DRUZHBY NARODOV IM. PATRISA LUMUMBY, MOSCOW.

UNCLASSIFIED

1/2 028 UNCLASSIFIED PROCESSING DATE--04DEC70  
TITLE--SYNTHETIC REGULAR POLYTRIPETIDES AND PROTEINS OF THE COLLAGEN  
CLASS -U-  
AUTHOR--(05)-ANDREYEYA, N.S., YESIPOVA, N.G., MILLIONOVA, M.I.,  
ROGULENKOVA, V.A., TUMANYAN, V.G.  
COUNTRY OF INFO--USSR  
SOURCE--BIOFIZIKA 1970, 15(2), 198-205  
DATE PUBLISHED-----70  
SUBJECT AREAS--BIOLOGICAL AND MEDICAL SCIENCES, CHEMISTRY  
TOPIC TAGS--PEPTIDE, CHEMICAL SYNTHESIS, GLYCINE, AMINO ACID, COLLAGEN, X  
RAY ANALYSIS  
CONTROL MARKING--NO RESTRICTIONS  
DOCUMENT CLASS--UNCLASSIFIED  
PROXY REEL/FRAE--3003/0918 STEP NO--UR/0127/70/015/002/0198/0205  
CIRC ACCESSION NO--AP0129983  
UNCLASSIFIED